MONTHLY WEATHER REVIEW.

WILLIS L. MOORE, Chief U. S. Weather Bureau.

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CLIMATOLOGICAL DATA FOR SEPTEMBER, 1911.

DISTRICT NO. 1, NORTH ATLANTIC STATES.

WILFORD M. WILSON, District Editor.

GENERAL SUMMARY.

Generally favorable and pleasant weather conditions were the characteristics of the month; there was marked freedom from damaging storms as well as from prolonged periods of high or low temperature and of rainy or dry weather. A few hot, sultry days occurred in the first decade and others in the early part of the third, but the highest temperatures were by no means unusual for September. On the whole, the month is mentioned as a pleasant one in all sections, although its average temperature in the Southern States of the district was about 2° higher than usual. It was slightly cooler than usual in the northern part of the district, where a cool period was experienced on the 14th and 15th and another during the last four or five days of the month. In the greater part of the district the lowest temperatures were observed on the morning of the 14th, when killing frosts occurred extensively and temperatures almost as low as any on the September records were observed in parts of New York and New England. The resulting damage to late crops, such as corn, buckwheat, and tobacco, was easily the most conspicuous effect of the month's weather, though serious loss was limited chiefly to Connecticut and a few counties in central New York. Judging from newspaper reports, it is believed that the total injury resulting from the frosts represented a value of about $300,000.

The following table summarizes the leading meteorological features for the various sections of the district:

States or parts of States within district No. 1.	Temperature.				Precipitation.				Average number of—	
	Average.	Departure.	Highest.	Lowest.	Average.	Departure.	Greatest total.	Least total.	Rainy days.	Clear days.
New England States	59.1	−0.9	88	21	3.34	−0.18	5.74	1.46	11	12
New York	60.0	−0.6	90	19	3.60	−0.25	7.29	1.51	10	15
Pennsylvania	64.5	+0.8	90	26	4.18	+0.78	6.64	1.85	10	14
New Jersey	66.4	+0.6	90	30	2.88	−1.06	5.33	1.08	9	10
Maryland, Delaware, and District of Columbia	69.7	+1.9	95	37	2.80	−0.96	5.08	0.92	7	14
West Virginia	67.0	+2.1	93	32	4.05	+1.58	5.58	2.39	9	11
Virginia	70.1	+2.2	93	35	2.33	−0.81	3.23	1.43	8	12

TEMPERATURE.

The average temperature for the district was slightly above 65°, or nearly the same as that for September, 1910. The month was somewhat cooler than usual in the northern part of the district, but from Pennsylvania southward the temperatures averaged above the normal. In eastern Massachusetts, Maine, and in the upper Hudson and Mohawk River valleys the average temperatures ranged from 1.5° to 3° less than the normal, while in the southern States of the district they were as much or more above the normal. South of Pennsylvania an excess in the average temperature was noted at all stations, but the weather was generally considered uneventful. The highest temperature recorded within the district was 95° at Solomons, Md., on the 3d, whereas in September last year there is record of a temperature of 101°.

The absence of excessively warm days over the greater part of the district caused the month to be regarded as remarkably pleasant, even where the average temperature was several degrees above the normal. Temperatures above 90° were not recorded, except in Maryland, Delaware, Virginia, and West Virginia. At many stations in New York and New England the highest temperatures did not exceed 80°. The warm periods that occurred appear to have affected rather small areas, as the maximum temperatures for the month occurred on many different dates. Chief among these were the 2d, 3d, 6th, and 25th.

Two of the cooler periods of the month were quite prominent and affected large areas. The first began on the morning of the 14th, when killing frosts and freezing temperatures occurred extensively in parts of Pennsylvania, New York, and New England. Frosts occurred locally as far south as Maryland, even in the eastern part of that State, but from Pennsylvania southward there was little injury to vegetation, and the cold spell was remarkable for its early occurrence rather than for its effects. Probably two-thirds of the damage resulting within the district from the early frosts was sustained by tobacco growers in Connecticut.

Temperatures below 32° were not recorded in Maryland, Delaware, West Virginia, or Virginia. The lowest temperature recorded within the district was 19° at Spier Falls, N. Y., on the 15th.

The last four or five days of the month were cool and generally cloudy, with frequent rainfall. Unlike the cool period of the 14th and 15th, when the day temperatures were fully up to the seasonal average, this period was marked by unusually cool weather in the daytime. The prevailing northerly winds, together with the absence of sunshine, kept the air very cool, particularly on the 29th. On that date light snow, varying from a trace to several inches, fell in the interior and mountainous sections of the northern States. At Hanover, N. H., it was the earliest snowfall since 1859.

PRECIPITATION.

Over most of the district the rainfall was below normal, but, owing to its timely occurrence and to the heavy precipitation of the last week of August, it was generally sufficient in all sections. In Pennsylvania and West Virginia the rainfall was somewhat greater than the September average, and some of the smaller streams in those States reached the flood stage.

The average rainfall for the district was slightly more than 3 inches, but a little less than the normal. Showers occurred frequently throughout the month, and, as none of them were unusually heavy, the resulting distribution of the precipitation was very good, both with regard to the time of occurrence and the total amount received in various localities. Only one station in the district, Annapolis, Md., received less than 1 inch of rain during the month, and few stations had less than 2 inches, except in Maryland and Virginia. The greatest amount recorded at any station was 7.29 inches at Salisbury, N. Y.

During the first half of the month there was considerably more rain in the northern half of the district than in the southern, owing to the fact that the storm of the 6th affected only the northern sections. The next extensive rain of importance occurred on the 15th. This was heavy in Pennsylvania, West Virginia, Maryland, and Virginia, but light in the other States of the district. Good rains occurred somewhat less extensively on several other dates, notably the 9th, 11th, 22d, 25th, and 29th, being light in some States and heavy in others; but at practically all stations in the district the rainfall was ample and came at favorable intervals.

Though the month was generally free from damaging storms and high winds, there was a very destructive local storm of hail at East Windsor, near Binghamton, N. Y., on the 18th, when fair weather was general over the State. The storm appeared to center over the village, and it wrought havoc with the crops and orchards over a path nearly a mile wide. The fruit was cut into pieces by the hail and stripped from the trees, while corn and buckwheat were cut to the ground. There being little wind, these effects were due entirely to the hailstones, some of which measured over 2 inches in diameter. When the storm was over, fields were white, as if covered with snow. In some places the hail was several inches deep on the ground. Hundreds of windows were broken and even roof shingles and slates were split or cracked in large numbers. The damage amounted to several thousand dollars, although the storm did not extend beyond the vicinity of the village.

RIVER CONDITIONS.

The rivers of the district remained at low to moderate stages throughout the month, except in the Susquehanna and upper Potomac watersheds, where the rainfall was heavier than elsewhere. However, no floods occurred on the principal streams and there was but little damage from freshets in the smaller tributaries.

SUNSHINE.

There was slightly less clear weather than usual over the district as a whole, the percentage of the possible sunshine averaging 56. The total sunshine for the month in hours averaged 210, ranging from 162 at Block Island, R. I., to 242 at New York City. In the southern part of the district the amount of clear weather was unusually small, the percentage of possible sunshine at Washington, D. C., being only 45. The number of days with 80 per cent or more of the possible sunshine averaged 8, and the number with 20 per cent or less, 6.

TABLE 1.—*Climatological data for September, 1911. District No. 1, North Atlantic States.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Maine.																			
Bar Harbor	Hancock	20	25	56.0	− 2.6	80	20	30	14†	30	5.15	+ 1.47	1.30	0	14	14	3	13	se.	William Miller.
Cornish	York	778	56	59.6	+ 0.8	88	2	27	29	41	5.34	+ 1.73	1.58	0	11	12	11	7	nw.	T. H. West.
Eastport	Washington	53	39	54.4	− 0.8	73	20	35	29	20	2.67	− 0.30	0.73	0	15	6	11	13	s.	U. S. Weather Bureau.
Fairfield	Somerset	90	26	56.2	− 1.5	80	2	30	14†	31	2.28	− 0.85	0.52	0	8	12	8	10	.....	E. F. Parker.
Farmington	Franklin	450	14	56.4	− 1.7	84	2	25	14	39	3.22	− 0.26	0.62	0	14	10	11	9	nw.	W. G. Mallett.
Gardiner	Kennebec	163	19	57.4	− 2.4	82	2	30	14†	34	4.85	+ 1.39	1.52	0	15	15	1	14	nw.	Samuel D. Soule.
Greenville	Piscataquis	1,000	7	52.6	.....	78	2	27	14	35	3.89	.....	1.08	.2	16	.....	.....	.....	.....	U. S. Weather Bureau.
Houlton	Aroostook	362	9	51.0	.....	84	20	28	14†	33	3.85	.....	0.90	1.0	10	15	7	8	w.	Bangor & Aroostook R. R.
Lewiston	Androscoggin	185	37	58.6	− 0.6	86	2	33	14	32	3.88	+ 0.35	1.26	0	13	11	9	10	s.	Union Water Power Co.
Madison	Somerset	257	8	54.6	.....	83	3	26	29	34	3.86	.....	0.88	0	12	21	1	8	nw.	William Jardine.
Millinocket	Penobscot	386	8	54.2	.....	76	3†	28	15†	37	2.73	.....	0.68	T.	15	11	7	12	nw.	H. S. Ferguson.
North Bridgton	Cumberland	450	18	59.2	− 0.6	85	2	30	14	35	3.63	− 0.31	0.86	0	13	12	9	9	sw.	G. E. Chadbourne.
Orono	Penobscot	129	42	57.2	+ 0.1	81	4	25	14†	40	3.05	− 0.50	0.86	0	12	2	15	13	nw.	Agr. Exp. Station.
Patten	do	550	9	51.8[e]	.....	75	5†	22	15	41	6.75	.....	1.62	T.	12	.....	.....	.....	nw.	Bangor & Aroostook R. R.
Portland	Cumberland	99	40	57.8	− 1.8	82	25	37	29	31	2.84	− 0.36	0.52	0	14	10	11	9	nw.	U. S. Weather Bureau.
Presque Isle	Aroostook	.....	2	52.2	.....	78	24	24	29	40	3.29	+ 0.14	0.83	0	12	11	5	14	s.	S. L. Merriman.
Rumford Falls	Oxford	505	18	55.6	− 2.2	81	2	30	14	32	3.20	.....	0.60	T.	14	14	10	6	nw.	Charles A. Mixer.
Winslow	Kennebec	90	16	57.9	.....	83	2	27	14	36	3.60	.....	0.80	0	14	14	10	6	s.	Hollingsworth & Whitney Co.
New Hampshire.																				
Alstead center	Cheshire	1,120	7	57.0	.....	82	2	31	14	26	4.05	.....	1.08	0	14	20	4	6	nw.	Frank Dewing.
Benton	Grafton	.....	2	54.7	.....	80	2	27	14	30	3.20	.....	0.68	T.	10	17	7	6	nw.	State Sanatorium.
Bethlehem	do	1,470	19	54.6	− 1.9	81	2	26	14	31	3.25	− 0.42	0.58	.5	12	19	5	6	nw.	Benjamin Tucker.
Concord	Merrimack	350	51	58.0	− 1.1	86	2	29	14	33	2.93	− 0.28	0.73	T.	13	7	17	6	nw.	U. S. Weather Bureau.
Durham	Stafford	88	16	58.3	− 2.2	85	25	30	14†	33	3.09	− 1.27	0.65	0	9	7	6	17	ne.	Agr. Exp. Station.
Franklin	Merrimack	440	12	58.9	.....	85	2†	29	14	36	3.84	.....	0.80	T.	16	18	7	5	nw.	Dr. C. P. Webster.
Grafton	Grafton	863	25	53.6[f]	− 3.3	82[f]	25	23[f]	14	37[f]	3.44	+ 0.40	0.89	1.0	9	15[f]	2[f]	7[f]	nw.	P. R. Kimball.
Hanover	do	603	77	56.0	− 1.8	85	2	26	15	36	3.47	+ 0.63	0.95	T.	12	4	17	9	sw.	Dartmouth College.
Keene	Cheshire	506	26	58.6	− 0.5	86	2	25	14	40	4.32	+ 0.31	0.95	T.	15	15	8	7	nw.	Samuel Wadsworth.
Nashua	Hillsboro	125	26	60.9	− 0.2	88	2	31	14	34	2.40	− 0.97	0.70	0	8	.....	.....	.....	.....	Jackson Company.
Newton	Rockingham	.....	23	57.8	− 2.3	85	2	25	14	37	2.14	− 1.45	0.62	T.	8	10	15	5	nw.	W. C. Gale.
Plymouth	Grafton	500	23	55.8	− 1.6	84	2	26	14	34	5.25	+ 1.71	0.89	T.	13	18	3	9	w.	Hattie G. Trow.
Vermont.																				
Bloomfield	Essex	.....	4	54.4	.....	80	19	25	29	35	3.89	.....	0.94	T.	13	15	7	8	s.	Lyman Falls L. & P. Co.
Cavendish	Windsor	910	8	57.2	.....	86	2	26	14	38	4.86	.....	0.88	0	16	13[a]	9[a]	7[a]	w.	Marietta A. Kingsbury.
Chelsea	Orange	840	16	54.5	− 1.7	83	2	23	14	37	3.89	+ 0.88	0.80	0	12	14	5	11	n.	W. F. Dewey.
Jacksonville	Windham	1,000	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Martha French.
Manchester	Bennington	980	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. M. Canfield.
St. Johnsbury	Caledonia	711	18	57.2	− 0.2	83	2	27	29	36	4.32	+ 1.07	0.75	0	15	15	7	8	s.	Fairbanks Museum.
Woodstock	Windsor	700	19	53.8	− 2.9	78	25	26	14	35	4.19	+ 1.46	1.22	0	8	6	13	11	.....	John S. Eaton.
Massachusetts.																				
Amherst	Hampshire	222	22	60.4	+ 0.2	84	2	29	14	38	3.41	− 0.12	0.76	0	11	13	8	9	ne.	Agr. Exp. Station.
Blue Hill	Norfolk	640	27	60.2	− 0.8	81	2†	34	14	26	3.36	− 1.14	1.07	0	16	10	10	10	nw.	Blue Hill Observatory.
Boston	Suffolk	124	41	62.5	− 0.2	85	2	43	29	25	2.95	− 0.24	1.12	0	10	10	7	13	nw.	U. S. Weather Bureau.
Chestnut Hill	do	124	31	62.2	− 0.7	85	2	34	14	33	3.59	+ 0.32	1.53	0	9	20	1	9	.....	Met. Water Board.
Clinton	Worcester	370	15	60.0	.....	81	2	34	14	35	2.98	.....	0.74	0	10	.....	.....	.....	.....	Do.
Concord	Middlesex	139	21	58.8	− 1.3	84	2	28	14	33	3.16	+ 0.06	0.74	0	14	10	9	11	n.	Fred A. Tower.
Fall River	Bristol	200	45	62.4	− 1.5	79	6	38	14	22	1.91	− 1.81	0.65	0	11	5	20	5	ne.	C. V. S. Remington.
Fitchburg	Worcester	550	28	60.4	− 0.7	84	2	34	14†	30	2.37	− 1.32	0.53	0	10	17	6	7	nw.	Dr. A. P. Mason.
Framingham	Middlesex	160	31	60.7[a]	− 1.3	84[a]	2	30[a]	14	35	2.73	− 0.40	0.58	0	9	.....	.....	.....	.....	Met. Water Board.
Hyannis	Barnstable	31	20	61.2	− 3.4	76	12	43	29	18	3.25	+ 0.75	0.55	0	13	12	7	11	ne.	C. F. Sleeper.
Lawrence	Essex	51	27	60.5	− 1.3	85	2	34	14	30	2.10	− 1.28	0.56	0	10	9	17	4	sw.	Essex Co.
Lowell	Middlesex	100	26	63.4	+ 1.4	85	2	33	14	36	2.59	− 0.77	0.64	0	8	.....	.....	.....	.....	Props. Locks & Canals.
Middleboro	Plymouth	53	25	60.1	− 0.8	82	6	30	29	31	2.96	− 1.03	0.56	0	14	5	8	17	ne.	A. R. Gurney.
Monson	Hampden	420	27	60.0	− 0.4	84	2	30	14	32	4.47	+ 1.19	1.08	0	13	17	8	5	nw.	Dr. G. E. Fuller.
Nantucket	Nantucket	15	25	61.2	− 1.6	75	12	46	14†	18	3.34	+ 0.61	0.78	0	13	8	9	13	ne.	U. S. Weather Bureau.
New Bedford	Bristol	88	99	62.0	+ 0.1	78	6†	38	14	25	2.93	− 0.61	0.97	0	8	15	3	12	ne.	City engineer.
Norfolk	Norfolk	244	8	59.2	.....	84	2	21	14	43	5.72	.....	1.54	0	10	12	11	7	e.	Ruby H. Martyn.
Plymouth	Plymouth	.....	26	58.8	.....	76	7	38	14	29	3.48	.....	0.92	0	12	13	6	11	e.	Laura B. Knapp.
Provincetown	Barnstable	40	24	60.4	− 3.4	75	12	42	29	18	4.43	+ 1.17	1.53	0	12	12	0	18	.....	Gideon Bowley.
Rockport	Essex	25	9	59.7	.....	78	6	40	20	19	3.50	.....	0.70	0	9	10	10	10	nw.	C. F. P. Bearse.
Rutland	Worcester	1,160	9	59.0	.....	80	2	36	13	36	3.07	.....	0.68	0	12	15	8	7	sw.	State Sanatorium.
South Egremont	Berkshire	764	9	54.6	.....	76	6	27	14	30	3.85	.....	1.20	0	11	.....	.....	.....	se.	Roscoe C. Taft.
Turners Falls	Franklin	200	20	59.9	− 0.9	82	2†	36	14†	27	3.63	+ 0.21	0.82	0	9	.....	.....	.....	.....	Turners Falls Co.
Westboro	Worcester	298	37	63.4	+ 0.9	84	25	30	14	36	2.84	− 0.15	0.55	0	10	.....	.....	.....	.....	G. S. Newcomb.
Williamstown	Berkshire	711	30	58.4	− 0.6	81	2	30	14	29	4.21	+ 1.33	1.26	0	10	8	14	8	w.	Williams College.
Worcester	Worcester	518	19	60.5	− 0.9	82	2†	34	14	25	5.74	+ 2.63	1.72	0	13	13	8	9	ne.	Geo. W. Swan.
Rhode Island.																				
Block Island	Newport	26	31	63.0	− 1.1	78	3	46	14	18	2.03	− 0.97	0.72	0	10	6	8	16	sw.	U. S. Weather Bureau.
Bristol	Bristol	53	25	62.9	− 0.8	81	3†	40	14	22	1.46	− 2.09	0.46	0	10	14	8	8	ne.	N. G. Herreshoff.
Kingston	Washington	250	22	60.8	− 1.6	82	3	32	14	30	2.31	− 1.55	0.51	0	11	12	12	6	ne.	Nathaniel Helme.
Narragansett Pier	Newport	22	29	62.2	− 0.5	82	3	36	29	26	3.26	0.00	0.84	0	10	13	8	9	sw.	U. S. Weather Bureau.
Providence	Providence	182	7	62.6	− 0.6	83	6	38	14	24	2.01	− 1.18	0.61	0	11	.....	.....	.....	n.	Do.
Connecticut.																				
Bridgeport	Fairfield	20	18	65.2	.....	87	22	38	14	29	2.69	.....	0.90	0	12	11	13	6	s.	William Jennings.
Canton	Hartford	900	50	61.0	+ 0.5	85	2	34	14	28	4.98	+ 1.13	2.00	0	9	16	7	7	nw.	G. J. Case.
Colchester	New London	370	25	61.2	− 1.0	82	6†	29	14	35	2.78	− 0.22	0.85	0	9	13	8	9	w.	S. P. Willard.
Cream Hill	Litchfield	1,300	15	59.8	− 1.5	81	18†	32	14	32	3.86	− 0.66	0.71	0	10	18	5	7	w.	C. L. Gold.
Danielson	Windham	300	9	61.4	.....	82	6	31	14	30	3.60	.....	0.75	0	10	14	11	5	n.	F. E. Bitgood.
Hartford	Hartford	159	7	62.8	+ 1.1	83	2	37	14	27	2.00	− 1.50	0.63	0	12	9	12	9	n.	U. S. Weather Bureau.
Hawleyville	Fairfield	600	13	62.6	− 0.1	84	3	31	14	32	2.24	− 2.72	0.63	0	9	18	5	7	nw.	C. B. Hawley.
New Haven	New Haven	127	124	64.2	+ 0.5	84	6	39	14	27	2.33	− 1.46	0.75	0	9	13	11	6	n.	U. S. Weather Bureau.
New London	New London	47	41	64.4	+ 1.0	86	3†	37	14	30	2.27	− 1.11	0.65	0	7	14	11	5	nw.	Thos. C. Dillon.
North Grosvenor Dale	Windham	400	21	60.2	− 1.2	83	2†	30	13	40	3.06	+ 0.23	1.07	0	13	13	8	9	nw.	Grosvenor Dale Co.
Norwalk	Fairfield	116	21	62.8	+ 0.3	85	25	36	14†	36	3.29	+ 0.01	0.77	0	11	16	9	5	sw.	Geo. C. Comstock.
Southington	Hartford	140	42	61.4	− 0.6	82	2†	31	14	30	2.15	− 0.89	0.60	0	12	9	13	8	n.	Luman Andrews.
Storrs	Tolland	640	23	62.0	+ 1.1	80	2†	34	29	34	2.94	− 0.51	1.20	0	9	12	9	9	w.	Agr. Exp. Station.
Voluntown	New London	260	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. S. Bitgood.
Waterbury	New Haven	400	36	63.4	+ 0.2	86	6	31	28	52	2.24	− 1.25	0.70	0	11	.....	.....	.....	.....	N. J. Welton.

TABLE 1.—*Climatological data for September, 1911. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
New York.																				
Addison	Steuben	1,000	21	63.2	+ 1.0	87	2†	32	14	36	3.87	+ 0.96	0.83	0	14	18	7	5	sw.	Dr. H. R. Ainsworth.
Albany	Albany	97	90	62.7	+ 0.4	90	2	38	14	29	2.86	− 0.32	0.77	0	12	18	5	7	s.	U. S. Weather Bureau.
Alfred	Allegany	1,976	16	59.4	− 0.4	80	19†	26	14	41	3.34	− 0.09	0.75	0	13	.....	.....	.....	.....	Prof. F. S. Place.
Amsterdam	Montgomery	277	7	59.6	.....	86	2	29	14	36	3.82	.....	1.00	0	9	20	3	7	w.	Emory Elwood.
Athens	Greene	90	9	62.7	.....	86	2	35	14	27	3.19	.....	1.18	0	11	10	14	6	sw.	E. C. Brooks.
Ballston Lake	Saratoga	400	7	58.2	.....	87	2	32	14†	38	4.47	.....	1.42	0	12	18	4	8	w.	George R. Schauber.
Beerston	Delaware		0																	John Q. Barlow.
Bedford	Westchester	450	20	63.1	− 1.2	86	2	36	14	28	2.57	− 1.46	0.94	0	11	23	3	4	.....	Dr. L. Rosenberg.
Binghamton	Broome	875	20	60.2	+ 0.2	85	2	31	14	33	2.35	− 0.42	0.81	0	10	5	15	10	ne.	U. S. Weather Bureau.
Bouckville	Madison	1,350	14	58.0	− 1.7	83	2	29	14	31	4.89	+ 1.91	1.82	0	11	10	9	11	nw.	L. W. Griswold.
Boyds Corners	Putnam	560	29								4.19	− 0.39								Thomas Manning.
Carmel	do	500	19	62.2	− 1.2	83	3	35	14	39	2.82	− 1.97	0.49	0	10	14	2	14	ne.	Do.
Chatham	Columbia	470	10	61.3	− 0.5	85	2	32	14	29	3.14	− 0.59	0.65	0	12	13	11	6	n.	Morton R. Tank.
Cooperstown	Otsego	1,250	57	57.6	− 0.7	83	2	29	14	32	4.06	+ 0.64	1.15	0	13	17	7	6	s.	Miss Elizabeth C. Keese.
Corinth	Saratoga	542	9								5.97	.....	1.25	0	10	.....	.....	.....	.....	A. M. Hollister.
Cortland	Cortland	1,129	49	.....	.....	83	2†	31	14	32	3.26	− 0.16	0.88	0	14	17	6	7	nw.	F. G. Baker.
Cutchogue	Suffolk	32	34	65.2	− 0.5	82	6	42	14†	24	1.89	− 2.20	0.78	0	9	11	17	2	n.	William A. Fleet.
De Ruyter	Madison	1,300	8	58.2	.....	83	2	28	14	39	3.71	.....	1.13	0	10	14	6	10	s.	B. D. Crandall.
Easton	Washington		21																	H. Taber.
Glens Falls	Warren	340	20	60.3	− 0.3	86	2	30	14	34	4.31	− 0.69	0.79	0	13	14	2	14	n.	Prof. C. L. Williams.
Gloversville	Fulton	850	19	57.7	− 1.7	84	2	28	14	35	6.88	+ 3.31	1.25	T.	14	17	7	6	w.	W. L. McLean.
Greenfield Center	Saratoga	314	13	59.2	− 2.0	86	2	31	14	32	5.72	+ 1.34	1.50	0	13	16	8	6	sw.	S. E. Darrow.
Greenwich	Washington	425	14	61.6	+ 0.2	88	2	33	14	34	4.30	+ 0.39	0.82	0	13	17	8	5	sw.	Homer J. Whitcomb.
Griffin Corners	Delaware	2,260	11	58.0	− 0.3	83	2	22	14	44	3.83	+ 0.06	1.13	0	8	13	9	8	w.	Harold O. Judd.
Haskinville	Steuben		16								2.55	− 0.17	0.62	0	11	.....	.....	.....	.....	W. G. Collins.
Homer	Cortland		20	58.2	+ 0.9	83	2	29	14	33	3.87	.....	1.10	0	12	16	4	10	nw.	Charles C. Mortimer.
Hoosick Falls	Rensselaer	410	9	.....	.....	.....	.....	.....	.....	.....	4.99	.....	1.33	0	14	17	5	8	se.	Sanford L. Cluett.
Indian Lake	Hamilton	1,705	12	54.2	− 3.0	79	2†	24	14	42	2.70	− 1.02	1.10	0	10	15	5	10	n.	Lester Severie.
Jeffersonville	Sullivan	1,240	8	60.2	.....	85	2	28	14	40	3.42	.....	1.08	0	8	19	5	6	w.	Charles Wilfert, jr.
Liberty	do	2,300	29	57.5	− 0.5	84	5	32	14	39	4.01	+ 0.29	1.40	0	10	15	2	13	nw.	Dr. H. M. King.
Little Falls	Herkimer	924	13	58.6	+ 0.6	83	2	31	14	35	6.25	+ 2.53	1.13	0	12	19	4	7	w.	O. J. Dempster.
Mohonk Lake	Ulster	1,245	15	60.2	− 1.1	80	2†	38	14	21	3.56	− 1.46	1.32	0	10	13	8	9	nw.	A. K. Smiley.
Morehouseville	Hamilton	1,697	3	53.9	.....	83	11	24	14	36	6.05	.....	1.23	0	11	19	3	8	w.	Theo. C. Remonda.
Morrisville	Madison	1,325	0	58.6	.....	84	2	28	14	38	4.86	.....	1.32	0	10	18	1	11	nw.	Prof. I. M. Charlton.
Mount Hope	Westchester	200	14	65.8	+ 1.8	84	6	38	14	27	2.55	− 1.39	0.55	0	8	10	14	6	.....	W. A. Cornelius.
Newark Valley	Tioga	825	24								2.41	− 0.73	1.01	0	9	.....	.....	.....	.....	M. D. Clinton.
New Berlin	Chenango		4								3.30	.....	1.28	0	10	9	5	16	nw.	Roger Greene.
Newcomb	Essex	1,600	0	53.3	.....	80	5	25	26	42	4.82	.....	1.40	0	6	.....	.....	.....	.....	Edward Spain.
New Lisbon	Otsego	1,234	21	55.7	− 1.7	82	2	24	14	38	2.79	− 0.93	0.73	0	11	13	8	9	nw.	G. A. Yates.
New York City	New York	314	86	66.6	+ 0.1	83	6	48	14	25	1.51	− 2.08	0.52	0	11	11	11	8	n.	U. S. Weather Bureau.
North Creek	Warren	1,002	3	56.5	.....	81	2	28	14	47	3.82	.....	0.91	0	7	17	4	9	w.	W. G. Kenwell.
Northville	Fulton	742	9								5.36	.....	1.57	0	9	.....	.....	.....	.....	P. C. Picard.
Oneonta	Otsego	1,112	17	59.8	− 2.1	84	2	31	14	32	2.55	− 0.95	0.78	0	8	19	3	8	nw.	H. W. Lee.
Oxford	Chenango	916	46	59.5	+ 0.4	83	2	33	14	31	2.49	− 1.11	0.91	0	8	13	13	4	s.	J. P. Davis.
Port Jervis	Orange	470	27	63.4	+ 0.1	86	2	32	14	34	3.29	− 0.54	0.97	0	12	19	5	6	w.	Frank E. Carruth.
Rome	Oneida	445	15																	John O'Mara.
Salisbury	Herkimer	1,526	14	55.9	− 3.3	82	2	26	14	39	7.29	+ 3.35	1.80	0	10	16	9	5	w.	Joseph Ryan.
Scarsdale	Westchester	200	7	65.2	.....	85	25	37	15	34	2.65	.....	1.20	0	6	15	10	5	ne.	C. H. Wilmarth.
Setauket	Suffolk	40	26	65.1	+ 0.1	81	6	45	29	19	2.09	− 1.52	0.72	0	10	18	5	7	w.	Selah B. Strong.
Sherburne	Chenango		4								4.04	.....	1.05	0	8	.....	.....	.....	.....	E. B. Collins.
Southampton	Suffolk	36	10	64.0	− 0.5	80	3	40	29	26	2.27	− 1.00	0.68	0	7	10	17	3	ne.	W. L. Jagger.
Southeast Reservoir	Putnam	310	6								2.12	− 2.13								Thomas Manning.
Spier Falls	Saratoga	400	10	54.3	.....	85	4	19	15	51	4.93	.....	1.36	0	12	8	13	9	sw.	George E. Fifield.
Trenton Falls	Oneida	751	8	.....	.....	.....	.....	.....	.....	.....	4.57	.....	1.10	0	11	.....	.....	.....	.....	C. W. Young.
Tribes Hill	Montgomery	268	8	.....	.....	.....	.....	.....	.....	.....	4.90	.....	1.60	0	6	.....	.....	.....	.....	R. S. Marshall.
Utica	Oneida	537	45	.....	.....	.....	.....	.....	.....	.....	6.10	+ 2.53	1.47	0	11	.....	.....	.....	.....	W. E. Young.
Wading River	Suffolk	112	5	.....	.....	.....	.....	.....	.....	.....	2.73	.....	0.90	0	10	25	4	1	nw.	H. B. Fullerton.
Wappingers Falls	Dutchess	110	21	62.4	− 1.1	82	2†	36	14	32	3.42	− 0.58	0.84	0	10	16	10	4	w.	H. C. Townsend.
Warwick	Orange	538	17								2.70	− 1.43	0.60	0	9	.....	.....	.....	.....	John W. Sly.
Waverly	Tioga	824	29	61.6	− 0.1	89	2	28	14	40	3.06	+ 0.08	0.96	0	11	9	14	7	nw.	J. F. Shoemaker.
Wells	Hamilton	1,000	5	57.2	.....	86	20	23	14	43	5.05	.....	1.45	0	9	.....	.....	.....	.....	Vernon E. Dewey.
West Berne	Albany	946	12	58.2	− 2.6	86	2	24	14	44	3.17	+ 0.15	0.94	0	7	13	8	9	w.	W. J. Haverly.
West Point	Orange	167	62	63.9	+ 0.9	86	2	40	14	33	4.50	+ 0.76	1.60	0	8	18	6	6	.....	U. S. Military Academy.
Windham	Greene	1,520	11	58.2	− 1.4	83	2	29	14	33	3.22	− 0.15	1.08	0	11	17	9	4	nw.	A. R. Mott.
Pennsylvania.																				
Altoona	Blair	1,181	23	67.4	+ 4.4	87	3	40	30	36	5.20	+ 2.44	2.86	0	8	.....	.....	.....	.....	C. W. Billin.
Bethlehem	Northampton	260	10	67.2	+ 1.6	87	2	33	13	39	1.85	− 1.54	0.93	0	8	15	3	12	nw.	Prof. E. C. Roest.
Clearfield	Clearfield	1,107	3	64.0	.....	87	8	33	14	39	5.93	.....	2.00	0	7	20	6	4	w.	Raymond C. Ogden.
Drifton	Luzerne	1,633	13	59.7	− 0.8	81	2	31	14	29	4.07	+ 0.12	1.15	0	12	18	7	5	w.	Eckley B. Coxe, jr.
Emporium	Cameron	1,050	24	62.0	− 0.2	83	2	34	14	32	6.14	+ 2.79	1.43	0	11	14	10	6	w.	T. B. Lloyd.
Ephrata	Lancaster	384	11	63.6	− 2.9	89	2	36	14	34	3.97	+ 0.49	1.07	0	9	15	8	7	w.	W. L. Frantz.
Everett	Bedford	1,080	13	65.8	+ 2.6	87	2	37	14	32	6.13	+ 3.49	1.75	0	9	15	15	0	w.	B. L. Steckman.
George School	Bucks	184	4	66.2	.....	85	3†	36	14	32	2.61	.....	0.88	0	13	17	7	6	n.	N. W. Swayne.
Gettysburg	Adams	600	37	67.8	+ 3.5	88	7†	39	14	33	3.49	+ 0.32	1.45	0	9	16	8	6	ne.	Col. E. B. Cope.
Gordon	Schuylkill	804	7	62.8	.....	86	2	30	14	35	4.25	.....	0.89	0	14	12	7	11	e.	Capt. J. G. Johnson.
Hamburg	Berks	380	15	65.0	− 1.2	88	24	36	15	36	1.86	− 2.38	0.79	0	7	19	2	9	se.	W. J. Kalbach.
Harrisburg	Dauphin	361	23	66.6	+ 1.7	85	2	46	30	25	3.68	+ 0.83	1.12	0	11	11	12	7	e.	U. S. Weather Bureau.
Huntingdon	Huntingdon	650	23	65.5	+ 1.0	89	2	39	14	36	6.64	+ 3.36	2.53	0	9	13	10	7	w.	Prof. W. J. Swigart.
Hyndman	Bedford	977	4	66.6	.....	90	2	36	14	37	6.10	.....	2.20	0	10	12	13	5	w.	H. C. Mauk.
Lawrenceville	Tioga	1,006	13	62.5[a]	+ 1.1	89	24	31	14	37[a]	3.50	+ 0.93	0.85	0	10	11[b]	7[b]	10[b]	.....	C. P. Darling.
Lebanon	Lebanon	458	24	65.1	− 0.4	84	2	40	14	27	3.53	+ 0.49	1.08	0	12	19	3	8	nw	Sowers & Rothermal.
Le Roy	Bradford	1,400	22	61.2	− 0.9	82	2	33	14	28	4.00	+ 0.95	1.00	0	12	12	10	8	sw.	G. W. T. Warburton.
Lock Haven	Clinton	560	23	65.8	+ 0.9	88	2	38	13	35	5.83	+ 2.29	2.30	0	9	6	18	6	w.	Prof. J. A. Robb.
Marion	Franklin	640	7	68.7	.....	89	2†	40	14	37	3.51	.....	1.53	0	7	14	10	6	.....	Hon. C. B. Hege.
Mauch Chunk	Carbon	634	22	64.2	− 0.2	87	2	34	14	36	4.20	+ 0.18	0.94	0	10	19	3	8	w.	F. C. Wintermute.
Mifflintown	Juniata	445	7	65.2	.....	87	2	37	14	32	5.61	.....	1.64	0	9	12	11	7	w.	Wellington Smith.
Milford	Pike	455	8	61.8	.....	86	2	29	14	38	3.42	.....	1.02	0	12	14	11	5	nw.	Mrs. Alla Doughty.
Montrose	Susquehanna	1,658	7	59.4	.....	80	2	30	14	30	4.84	.....	1.40	0	10	16	7	7	s.	Silas Jagger.
New Germantown	Perry	873	7	65.2[b]	.....	87	2	36	14	32[b]	5.49	.....	2.00	0	7[b]	19[b]	1[b]	8[b]	w.	Ed. C. Johnston.
Philadelphia (1)	Philadelphia	117	40	68.6	+ 1.2	86	3	46	14	25	2.52	− 0.86	1.13	0	7	9	16	5	n.	U. S. Weather Bureau.
Pocono Lake	Monroe	1,662	9	59.6	.....	81	17	26	14	43	3.25	.....	1.03	0	9	11	4	15	w.	Pocono Lake Ice Co.
Reading	Berks	280	38	65.8	+ 0.1	88	2	39	14	29	2.55	− 0.84	1.00	0	10	9	15	6	nw.	Emil L. Neubling.
Scranton	Lackawanna	805	11	62.4	+ 0.2	86	2	34	14	31	2.90	+ 0.04	0.99	0	11	9	14	7	s.	U. S. Weather Bureau.

TABLE 1.—*Climatological data for September, 1911. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Pennsylvania*—Contd.**																				
Selinsgrove	Snyder	455	23	65.5	+ 0.7	87	2	36	14	40	4.96	+ 1.50	1.45	0	10	0	24	6	sw.	J. M. Boyer, C. E.
State College	Center	1,191	23	63.7	+ 0.8	85	4	36	14	37	5.41	+ 2.58	1.73	0	12	.....	.....	.....	sw.	Prof. Wm. Frear.
Towanda	Bradford	754	16	62.4	− 0.2	84	2	34	14	33	3.37	+ 0.44	1.12	0	10	15	6	9	sw.	Hiram E. Bull, C. E.
Wellsboro	Tioga	1,327	34	62.2	+ 2.5	85	2	30	14	37	3.88	+ 1.24	0.96	0	8	16	9	5	sw.	O. L. White.
West Chester	Chester	455	57	67.2	+ 2.0	86	25	42	14	23	3.91	− 0.44	1.50	0	12	15	5	10	nw.	J. C. Green, D. D. S.
Williamsport	Lycoming	530	21	66.6	+ 2.6	88	11	37	14	37	3.49	+ 0.28	1.67	0	6	19	0	11	se.	Henry H. Guise.
New Jersey.																				
Asbury Park	Monmouth	22	23	68.2	+ 1.3	87	25	45	14	31	2.53	− 0.71	1.11	0	8	11	12	7	sw.	B. H. Obert.
Atlantic City	Atlantic	16	38	68.0	+ .4	88	6	46	14	23	3.02	− 0.03	1.19	0	10	9	9	12	n.	U. S. Weather Bureau.
Bayonne	Hudson	50	21	67.2	+ .4	86	25	42	14	25	1.90	− 1.99	0.63	0	10	10	12	8	nw.	John H. Eadie.
Belvidere	Warren	289	20	65.0	− .1	84	2	36	14	30	2.37	− 1.55	0.98	0	9	10	14	6	.....	Samuel J. Hixson.
Boonton	Morris	413	21	.....	.....	.....	.....	.....	.....	.....	2.63	− 1.86	0.88	0	8	.....	.....	.....	n.	Foster Peer.
Bridgeton	Cumberland	30	30	68.6	+ .4	89	3	42	14	28	3.20	− 0.61	1.25	0	6	10	11	9	nw.	Henry A. Jorden.
Burlington	Burlington	12	27	.....	.....	.....	.....	.....	.....	.....	2.85	− 1.07	1.04	0	10	12	13	5	nw.	D. S. B. McCoy.
Canton	Salem	24	17	.....	.....	.....	.....	.....	.....	.....	2.32	− 1.47	0.90	0	4	9	14	7	.....	John H. Maskell.
Cape May City	Cape May	17	27	69.4	+ .4	86	6	45	14	23	1.08	− 1.92	0.55	0	6	11	16	3	ne.	U. S. Weather Bureau.
Charlotteburg	Passaic	719	19	63.0	+ .7	83	2	31[a]	14	38[a]	3.04	− 1.64	0.89	0	8	12	11	7	se.	George S. Briggs.
Chatham	Morris	234	9	.....	.....	.....	.....	.....	.....	.....	3.80	.....	1.90	0	9	.....	.....	.....	nw.	M. A. Butler.
Clayton	Gloucester	126	18	67.4	+ .7	85	3	41	14	28	4.16	+ 0.14	1.29	0	7	10	13	7	n.	William T. Farley.
College Farm	Middlesex	100	16	66.7	+ .5	86	25	38	14	30	2.28	− 1.34	0.77	0	9	11	8	11	nw.	George B. Thrasher.
Culvers Lake	Sussex	848	10	.....	.....	.....	.....	.....	.....	.....	4.21	.....	1.14	0	9	10	14	6	w.	Brice E. Riker.
Dover	Morris	600	27	61.4	− 1.2	84	2	34[a]	14	30[a]	2.90	− 1.58	0.94	0	10	10	12	8	.....	William C. Harris.
Elizabeth	Union	33	32	67.2	+ .2	85	2†	44[a]	14	27[a]	1.99	− 2.07	0.72	0	9	11	12	7	w.	William M. Oliver.
Flemington	Hunterdon	187	23	66.6	+ 1.5	88	25	39	14	31	2.60	− 1.38	0.89	0	10	10	14	6	n.	Hiram E. Deats.
Haddonfield	Camden	75	24	67.0	+ 1.0	86	3	40†	14	31	2.47	− 1.27	1.11	0	11	9	16	5	n.	Charles F. Richardson.
Hammonton	Atlantic	103	13	.....	.....	.....	.....	.....	.....	.....	5.33	+ 1.67	2.23	0	9	.....	.....	.....	.....	Orville Bassett.
Hightstown	Mercer	119	19	66.8	+ .2	88	6	36	14	33	2.63	− 1.25	0.88	0	10	11	9	10	sw.	Ernst Wenger.
Highwood	Bergen	90	.....	64.4	.....	86	25	34	14	30	2.42	.....	0.74	0	9	.....	.....	.....	n.	Charles J. Bates.
Indian Mills	Burlington	76	22	67.0	+ .9	88	6†	37	14	34	4.44	+ 0.27	1.30	0	12	10	12	8	n.	James Armstrong.
Jersey City	Hudson	15	13	68.2	+ 1.0	88	25	43	14	25	1.76	− 1.95	0.66	0	7	7	17	6	nw.	Samuel K. Pearson, jr.
Lakewood	Ocean	54	9	65.6	.....	84	6	41	14	26	3.19	.....	1.09	0	11	9	10	11	nw.	Ralph Robertson.
Lambertville	Hunterdon	95	25	66.7	+ .7	86	25	38	14	34	3.51	− 0.67	1.46	0	9	10	14	6	se.	William R. Bowne.
Layton	Sussex	550	12	62.6	+ .8	85	2	30	14	34	2.76	− 1.11	1.10	0	7	11	14	5	sw.	Warren C. Hursh.
Little Falls	Passaic	175	8	.....	.....	.....	.....	.....	.....	.....	2.11	.....	0.73	0	7	.....	.....	.....	w.	A. Sweetman.
Mahwah	Bergen	312	9	.....	.....	.....	.....	.....	.....	.....	2.66	.....	0.90	0	6	.....	.....	.....	n.	Charles L. Barker.
Moorestown	Burlington	71	49	67.5	+ 1.5	86	25	40	14	27	2.96	− 0.80	1.15	0	11	11	12	7	n.	John C. Beans.
Newark	Essex	140	68	67.2	+ 1.3	87	25	40	14	27	1.56	− 2.29	0.80	0	8	10	13	7	nw.	Prof. William Wiemer.
New Brunswick	Middlesex	61	58	67.0	+ 1.0	88	6	36[a]	14	34[a]	2.19	− 1.66	0.82	0	8	11	11	8	w.	William T. Woerner.
Newton	Sussex	678	32	64.0	+ .4	85	2	34	14	33	2.59	− 1.09	1.00	0	10	12	10	8	w.	F. Vernon Losee.
Northfield	Atlantic	.....	4	.....	.....	.....	.....	.....	.....	.....	3.40	.....	1.49	0	10	.....	.....	.....	.....	William L. Flick.
Paterson	Passaic	80	40	65.6	− .6	86	25	39	14	29	2.52	− 1.92	0.82	0	7	9	16	5	nw.	Heber A. Probert.
Phillipsburg	Warren	363	14	65.0	− .4	88	2	36	14	32	2.65	− 1.13	0.89	0	9	10	14	6	w.	D. W. Smith.
Plainfield	Union	100	25	66.1	+ .9	87	25	37	14	30	2.61	− 1.84	0.87	0	10	11	12	7	sw.	John Neagle.
Pleasantville	Atlantic	26	13	.....	.....	.....	.....	.....	.....	.....	3.95	+ 0.54	1.44	0	7	10	12	8	.....	Lincoln Van Gilder.
Pompton Plains	Morris	195	9	.....	.....	.....	.....	.....	.....	.....	2.97	.....	0.84	0	10	.....	.....	.....	n.	M. S. Taylor.
Rivervale	Bergen	70	20	.....	.....	.....	.....	.....	.....	.....	2.85	− 1.52	1.40	0	7	12	11	7	nw.	Garrett S. M. Holdrum.
Somerville	Somerset	76	28	66.9	+ 1.6	90	2	37	14	32	2.43	− 1.23	0.85	0	8	11	12	7	nw.	Peter Hardcastle.
South Orange	Essex	200	41	64.7	+ 0.6	83	25	42	14	22	1.44	− 2.65	0.67	0	7	10	13	7	w.	Dr. William J. Chandler.
Sussex	Sussex	442	21	63.7	− 0.2	85	2	32	14	38	3.13	− 0.78	0.89	0	10	10	12	8	sw.	George Dymock.
Tuckerton	Ocean	23	18	67.0	+ 1.0	86[a]	3	39	14	29[a]	4.47	+ 1.11	1.95	0	10	11	9	10	sw.	Frank R. Austin.
Vineland	Cumberland	118	42	68.0	+ 1.1	88	25	40[a]	14	31[a]	4.00	+ 0.16	1.54	0	7	10	12	8	nw.	Alfred Chalmers.
Woodbine	Cape May	43	20	67.6	+ 1.3	87	3	40[a]	14	32[a]	3.16	− 0.87	1.14	0	7	12	6	12	.....	Prof. H. A. Dodge.
West Virginia.																				
Bayard	Grant	2,500	10	63.3	+ 2.6	85	8	32	14	38	4.97	+ 2.05	1.43	0	13	13	10	7	w.	Solomon Clark.
Burlington	Mineral	875	17	65.6[d]	+ 0.6	89	2	38	14	36[d]	4.30	+ 1.49	1.30	0	6	6[d]	19[d]	1[d]	w.	J. W. Vandiver.
Franklin	Pendleton	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. A. Martin.
Lost City	Hardy	.....	5	65.4	.....	84	7	40	14	28	3.47	.....	1.34	0	9	16	10	4	w.	B. D. Hinegardner.
Martinsburg	Berkeley	435	19	68.3	+ 1.8	89	2†	42	14	34	4.02	+ 1.47	1.60	0	8	17	8	5	s.	G. W. Van Metre, C. E.
Moorefield	Hardy	900	15	70.5	+ 4.2	92	2†	41	14	36	5.58	+ 3.07	1.89	0	8	5	24	1	sw.	John C. Fisher.
Romney	Hampshire	824	14	68.0[c]	+ 1.7	93	1	40	14	37[c]	3.59	+ 1.17	0.87	0	10	10[c]	13[c]	2[c]	w.	John C. Linthicum.
Upper Tract	Pendleton	1,230	14	68.0[a]	+ 1.7	89	2	36	14	36[a]	2.39	+ 0.26	1.10	0	8	2[c]	24[a]	3[c]	w.	J. M. Mallow.
Maryland.																				
Annapolis	Anne Arundel	45	33	73.2	+ 3.5	89	3	54	14	29	0.92	− 3.18	0.48	0	5	15	3	12	s.	U. S. Naval Academy.
Baltimore	Baltimore	115	41	70.4	+ 1.8	89	25	49	14	24	1.60	− 2.25	0.79	0	7	7	15	8	n.	U. S. Weather Bureau.
Cambridge	Dorchester	25	13	72.9	+ 2.1	92	12	49	14	29	2.29	− 1.27	0.79	0	5	12	15	3	s.	T. E. Keenan.
Cheltenham	Prince Georges	230	11	70.7[a]	.....	88[a]	25	43	14	32[a]	1.14	.....	0.48	0	10	12	8	10	nw.	George Hartnell.
Chestertown	Kent	80	26	70.2	+ 2.5	86	3†	44	14	27	2.03	− 1.74	0.77	0	6	18	11	1	s.	M. W. Thomas.
Chewsville	Washington	530	14	68.4	+ 1.9	88	2†	44	12	37	4.06	+ 1.66	1.28	T.	6	10	19	1	se.	D. Paul Oswald.
Clear Spring	....do	650	14	66.4	+ 0.5	88	2	45	14†	34	2.88	+ 0.52	1.18	0	10	10	16	4	sw.	W. W. Frantz.
Coleman	Kent	80	13	69.9	.....	89	3	47	14	25	2.02	− 1.98	0.82	0	5	10	14	6	sw.	J. S. Harris.
College Park	Prince Georges	170	21	70.0	+ 1.8	91	25	40	14	33	1.95	− 1.53	0.85	0	5	17	9	4	nw.	Prof. H. Patterson.
Cumberland	Allegany	700	37	.....	.....	.....	.....	.....	.....	.....	5.08	+ 2.45	2.00	0	12	.....	.....	.....	.....	J. W. Frantz.
Darlington	Harford	300	19	67.4[c]	+ 1.1	88[c]	25	44[c]	14	27[c]	2.48	− 1.60	1.09	0	5	13[c]	9[c]	5[c]	n.	Prof. A. F. Galbreath.
Denton	Caroline	42	16	69.8	+ 1.1	88	3	41	14	31	1.99	− 1.90	1.30	0	5	17	5	8	nw.	H. B. Mason.
Easton	Talbott	35	20	69.2	+ 0.5	86	3	44	14	25	3.83	+ 0.60	0.99	0	8	14	14	2	sw.	Henry Shreve.
Emmitsburg	Frederick	720	38	69.4	+ 3.9	86	7	47	27	30	3.08	− 0.44	1.08	0	4	24	5	1	sw.	J. M. Sheridan.
Fallston	Harford	450	41	67.8	+ 2.1	87	25	42	14	29	2.84	− 1.62	1.18	0	8	1	27	2	nw.	J. H. Curtiss.
Frederick	Frederick	275	34	69.2	+ 2.1	87	7	43	14	27	3.30	+ 0.05	1.42	0	10	21	2	7	ne.	Chas. S. Birley.
Frostburg	Allegany	1,929	10	67.2	.....	87	2†	37	13	31	4.89	.....	2.18	0	12	15	12	3	nw.	R. A. Walter.
Great Falls	Montgomery	200	20	68.8[a]	+ 0.7	88[a]	7	41[a]	14	29[a]	3.25	+ 0.01	1.10	0	8	11	13	6	se.	J. W. Bissett.
Green Spring Furnace	Washington	450	19	70.2	+ 3.1	89	2†	41	14	31	3.14	+ 0.65	1.18	0	7	18	8	4	se.	E. G. Kinsell.
Keedysville	....do	400	7	70.1	.....	90	7†	40	14	34	2.61	.....	1.21	0	6	19	7	4	s.	J. A. Miller.
Lake Montebello	Baltimore	200	2	69.1	.....	87	2†	45	14	30	1.70	.....	0.82	0	5	15	6	9	se.	Martin L. Dobler.
La Plata	Charles	190	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. R. Lee Reich.
Laurel	Prince Georges	150	17	68.4	+ 0.1	88	3†	41	14	31	2.21	− 1.50	1.12	0	5	9	18	3	.....	Dr. T. M. Baldwin.
Leonardtown	St. Marys	100	1	72.2	.....	92	3	54	14	4	1.95	.....	0.55	0	9	21	6	3	n.	Brother Fidelis.
Monrovia	Frederick	630	24	69.4	+ 2.9	89	7†	41	14	35	2.59	− 0.93	1.30	0	9	16	8	6	s.	J. H. Lawson.
Pocomoke City	Worcester	37	18	72.4	+ 2.1	88	3	46	14	25	2.15	− 0.90	0.65	0	8	11	15	4	sw.	Hon. R. M. Stevenson.
Porto Bello	St. Marys	38	6	70.2	.....	92	3	47	15	29	2.50	.....	1.10	0	4	12	5	13	n.	Mrs. Clara C. Hyatt.

TABLE 1.—*Climatological data for September, 1911. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Maryland*—Continued.**																				
Princess Anne	Somerset	17	18	69.0	+ 0.8	87	3	42	14	30	1.85	− 1.09	0.95	0	6	6	17	7	sw.	J. R. Stewart.
Rockville	Montgomery	421	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. G. E. Lewis.
Salisbury	Wicomico	23	6	71.6	.....	92	3	41	14	31	1.66	.....	0.47	0	7	9	20	1	e.	W. E. Downing.
Solomons	Calvert	20	20	73.3	+ 1.6	95	3	53	14	24	2.54	− 0.24	1.60	0	7	3	9	18	ne.	Dr. W. H. Marsh.
State Sanatorium	Frederick	1,200	3	67.3	.....	84	2†	41	14	25	3.09	.....	1.41	0	12	19	6	5	sw.	Joseph V. Shimek.
Sudlersville	Queen Annes	65	12	70.4[m]	+ 1.9	88	3	46[m]	27	31[m]	2.15	− 2.33	1.12	0	5	19	3	8	n.	Jas. E. Higman.
Takoma Park	Montgomery	320	13	67.3	+ 0.1	85	3†	44	14	25	2.94	− 1.41	0.80	0	12	1	22	7	.....	L. M. Mooers.
Taneytown	Carroll	450	12	68.8[d]	.....	92[d]	7	45[d]	27	26[d]	3.27	− 0.02	1.50	0	5	11[d]	13[d]	2[d]	e.	James B. Galt.
Towson	Baltimore	465	3	68.8	.....	88	15	40	14	34	1.99	.....	0.77	0	8	18	7	5	se.	C. W. E. Treadwell.
Van Bibber	Harford	100	14	68.0[b]	+ 0.7	89[b]	3	42[b]	14	32	1.20	− 3.39	0.86	0	4	21[b]	1[b]	6[b]	.....	W. Benj. Ford.
Westernport	Allegany	1,000	17	68.6	+ 2.8	90	2†	40	14	34	3.88	+ 1.46	1.20	0	10	.....	.....	.....	.....	Prof. O. H. Bruce.
Westminster	Carroll	860	18	.....	.....	.....	.....	40	14	.....	1.93	− 1.98	1.00	0	8	16	10	4	w.	Prof. Geo. F. Morelock.
Woodstock	Baltimore	392	37	71.9	+ 6.2	86	26	41	14	36	3.08	− 0.58	1.04	0	8	18	3	9	nw.	Rev. A. J. Donlon, S. J.
Delaware.																				
Delaware City	New Castle	20	9	68.6	.....	85	2†	49	14	28	2.10	.....	1.04	0	4	23	3	4	s.	H. Morton Price
Dover	Kent	40	23	69.6	+ 1.8	89	25	43	14	29	2.68	− 1.28	0.77	0	6	10	12	8	nw.	Thos. F. Dunn.
Milford	....do	20	27	70.2	+ 2.1	89	20	44	14	30	2.02	− 2.02	0.48	0	8	15	10	5	nw.	Chas. J. Holzmuller.
Millsboro	Sussex	20	19	69.6	+ 1.0	91	3†	41	14	32	1.67	− 1.66	0.64	0	5	16	1	13	se.	Rev. L. W. Wells.
Seaford	....do	40	18	70.0	+ 1.6	85	3	45	14	28	1.55	− 1.63	0.67	0	9	19	7	4	se.	E. B. Brown.
District of Columbia.																				
Washington	Dist. of Columbia	112	41	70.4	+ 2.3	89	7	46	14	25	2.03	− 1.56	1.09	0	9	8	11	11	n.	U. S. Weather Bureau.
Virginia.																				
Culpeper	Culpeper	450	3	70.0	.....	89	3	42	14	26	3.23	.....	1.28	0	8	7	20	3	se.	Col. H. C. Burrows.
Dale Enterprise	Rockingham	1,350	32	67.6	+ 1.0	90	25	35	14	35	1.72	− 1.82	.55	0	11	7	17	6	s.	Rev. L. J. Heatwole.
Doswell	Hanover	134	10	71.4	.....	90	6	42	14	31	1.99	.....	1.56	0	3	.....	.....	.....	sw.	Rich., Fdksbg. & Pot. R. R.
Eastville	Northampton	15	1	74.3	+ 3.1	93	3	46	14	29	1.85	− 1.83	.56	0	7	16	9	5	sw.	T. B. Robertson.
Fredericksburg	Spottsylvania	100	22	71.2	+ 2.0	92	3	44	14	27	3.16	− .05	1.12	0	12	14	11	5	s.	S. G. Howison.
Lincoln	Loudoun	500	10	70.0	+ 2.2	91	7†	40	14	35	2.44	− .56	1.38	0	8	14	12	4	nw.	Dr. Geo. Roberts.
Mount Weather	....do	1,726	7	65.4	+ 3.0	81	25	43	14	29	1.43	− 1.42	.95	0	6	7	15	8	se.	U. S. Weather Bureau.
Quantico	Prince William	16	14	72.1	+ 3.7	89	4	44	14	29	2.79	.....	2.43	0	3	19	8	3	ne.	Rich., Fdksbg. & Pot. R. R.
Staunton	Augusta	1,380	19	69.7	+ 1.6	89	5	42	14	30	3.16	− .14	.61	0	12	11	13	6	sw.	Ernest Nothnagle.
Woodstock	Shenandoah	927	15	69.7	+ 2.0	92	25	40	14	36	1.49	− 1.12	.43	0	11	15	12	3	w.	Mrs. A. G. Artz.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1911. District No. 1, North Atlantic States.*

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Maine.																																
Ashland	St. John						.70			.05			.05			T.	1.30	.10	T.	.70			.55			.40	.10	.25	.10	.55	.10	5.15
Bar Harbor	Coast	.20														.68	.17	T.												5.34
Cornish	Saco		.38				1.58		T.	.26			.10			T.	.10			.20			.48			.78	.01	.12		.78		2.32
Danforth	Penobscot			.20			.15			.10			.10			T.	.40	.02	T.	.03			.60			.70	.12		.05			2.67
Eastport	Coast	.06		.01			.73			.11			.04			T.	.56	.06	.01	.30			.38			.11	.01		.02	.16	.11	3.35
Eustis	Kennebec	T.	T.	.15			.85			.04	.03		.11			.13	T.	.01		T.			.47			1.09	.10	.01	.01	.10	.25	2.28
Fairfield	do						.52			.18			.35			.27					.18					.50				*	.28	3.22
Farmington	do	.04		.06			.52			.08			.08			.32	.34	.06	T.	.04			.48			.62		.10		.27	.21	3.85
Gardiner	do	.28		.10			1.52			.14	.02		.19			.12	.34			.05			.46			.48	.42		.25	.22	.26	3.89
Greenville	do		.35	.18			1.08			.08		.02	.10			.18	.10	T.		T.			.58		.03	.61	.10	.03	.03	.20	.22	3.85
Houlton	St. John					1.00	1.25			.50			.70			.20	.20			.20			.50			.90	.40	.20		.05		4.80
Howe Brook	Penobscot						.75						.75							.10			.35			1.35						3.88
Lewiston	Androscoggin			.22			1.20			.10			.01			.38	.27						.44			.53	.01	.15	.01	.43	.07	3.86
Madison	Kennebec			.09			.49			.10			.16		*	.88	.18					*	.65			.53				*	.78	2.73
Millinocket	Penobscot			.12	T.		.03	.65		.07			.08			.11		.03		.03	.12		.50			.05	.57	.01	.07		.29	3.63
North Bridgton	Saco			.05			.86			.18	.01		.05			.42	.28						.37			.01	.08		.15	.36	.21	3.95
Oquossoc	Androscoggin		.10				1.05			.20						.45										1.10		.35		.70		3.05
Orono	Penobscot	.19		.06			.86				.11		.56				.08			.04	.48					.21	.06		.07		.33	3.75
Patten	do		T.	.47			1.10			.80	.40		.50			T.	.18	T.		.75	.05		.43		1.62				.21	T.	.24	2.84
Portland	Coast	.01	.13	.02			.36		T.	.35			.02			.42	.07	T.		T.			.51			.31	.04	.08		.50	.02	3.29
Presque Isle	St. John		T.	.15			.82			T.	.04		.54			T.	.05			.06	.07		.25			.83	.30	T.	.05		.13	3.20
Rumford Falls	Androscoggin	T.	.15	.16			.58			.03			.20			.43	.04	T.				T.	.41			.41	.06	.07	.06	.50	.10	
The Forks	Kennebec																															
Winslow	do		.05				.70			.15			.05			*	.50		.50	.05		.40				*	.80	.10		*	.30	3.60
New Hampshire.																																
Alstead Center	Connecticut			.29			1.08		.12	.49	.01	T.	.17			.44	.08	.04					.36					.22	.02	.71	.02	4.05
Benton	do		.20				.68	.08	.10	.32			.12			.50						.56				29				.35		3.20
Bethlehem	do	.06		.16			.47		T.	.27			.58			.33							.46			.16	.22	.22		.24	.08	3.25
Brookline	Merrimack						.35		.05	.32			.02			.43						.40				.55		.15		.95		3.02
Concord	do		T.	.06			.73		.08	.16		.11	T.			.34	.01					.01	.45			.01	.04	.29		.64		2.93
Durham	do	.02					.42			.24		.23				.42										.35	.18	.58		.63		3.09
Franklin	do	.03		.20			.80		.14	.52	.01		.01			.38	.30						.42			.03	.04	.24	.04	.57	.11	3.84
Grafton	do						.89		.20	.40						.53	.35						.33			.08		.12		.54		3.44
Hanover	Connecticut			.30			.81			.37		.20	.01			.51		.09								.95		.01		.15	.07	3.47
Keene	do			.48			.78		.12	.95			.01			.42	.11	.03					.51			.01	.02	.10	.12	.63	.03	4.32
Nashua	Merrimack	T.					.16			.30						.31	T.	T.					.30			.40	.03	.20		.70		2.40
Newton	do						.11		.07			T.	T.			.47		T.					.27			.17	.26	.17		.62		2.14
Plymouth	do	T.		.44			.88		.10	.38			.15			.89	.33	.02					.61			.02			.20	.54	.09	5.25
Vermont.																																
Bloomfield	Connecticut	.05		.41			.72			.15	.02		.28			.42		.01					.51			.94		.09	.09	.20		3.89
Cavendish	do	.04	.05	.58			.88		.35	.45			.10			.70	.07	.30					.23			.33	.04	.13		.55		4.86
Chelsea	do	.04					.80		.22	.43			.38			.73	.15					.22				.18		.28		.33	.13	3.89
Jacksonville	do																															
Manchester	Hudson																															
St. Johnsbury	Connecticut	.06		.75			.73	T.		.20		.03	.08			.54		.04					.42			.44	.42	.02	.11	.21	.18	4.32
Vernon	do						.85		.46	.77						.43	.01					.28	.23			.34	.02	.07		.91		4.37
Woodstock	do		.60			.73		.22		.41			T.			1.22	.11					.37								.53		4.19
Massachusetts.																																
Amherst	Connecticut						.37		.13	.76		.04				.47						.03	.59			.06	.08	.13		.75		3.41
Ashland	Merrimack						.17			.70		.33				.36							.15				.35	.05		.56		2.67
Bakers Bridge	do	.23					.23			.58		.04				.05	.60						.20			1.40	.05			.60	.05	4.03
Bedford	do						.19		.03	.58	.02	T.				.38	.24	T.					.23			.67	.09	.06		.52	.03	3.04
Blue Hill	Coast	.03					.11		T.	1.07		.34	T.			.06	.40	.02	T.	.03			.20		.01	.56	.11	.06	.04	.31	.01	3.36
Boston	do						.17		T.	.40		.05				.43	.09						.16			1.05	.07	.12		.41		2.95
Chestnut Hill	do						.20		T.	.47		.14				.54						.16		T.	1.53	.05	.06		.44		3.59
Clinton	Merrimack						.20		.03	.56		.03				.54		.02					.32				.47	.07		.74		2.98
Concord	do	.04					.23		.03	.58		.02				.08	.56	T.					.25			.67	.07	.02	.03	.55	.03	3.16
Fall River	Coast						.27					.03				.20	.07	.01					.12		.10	.15	.18	.13		.65		1.91
Fitchburg	Merrimack						.29		.03	.45						.23	.05	T.					.43			.16	.15	.05		.53		2.37
Framingham	do						1.35			.58		.17					.44						.14			.30	.17	.04		.54		2.73
Haverhill	do	.18					.06		.09	.26						.10	.23						.33			.08	.07	T.	.17	.35	.12	2.04
Hingham	Coast	.04					.15		*	.73		.24				*	.82	.02		T.			.22		.02	.54	.10	.12		.24		3.24
Hyannis	do	.23	.01				.44			.08		.04					.54	.08	.06				.55	.01			.51	.17		.53		3.25
Jefferson	Merrimack						.29		*	.71		.09				.50							.44			.26		.19		.60		3.08
Lake Cochituate	do						.26			.54		.26				.47							.15				.74	.04		.50		2.96
Lawrence	do						.07		.02	.33			T.			*	.45						.38			.08	.04	.17		.56	T.	2.10
Leominster	do						.27		.06	.37						.43	.07	T.					.32			.09	.11	.04		.67		2.43
Lowell	do						.09		.45					.03		.38							.32				.64	.07		.61		2.59
Middleboro	Coast						.56		.01	.19		.26	T.			*	.53	.02	T.	.02			.19		.07	.07	.50	.19		.35		2.96
Monson	Connecticut						.40		.20	1.00		1.08				.10	.20						.50			.10	.10	.20	.02	.55	.02	4.47
Nantucket	Coast	.63					.78			.03						.01	.39	.01		.01			.47			.04	.49	.13	.01	.34		3.34
New Bedford	do						.97			.12						.60	.16						.22			.25			.06	.55		2.93
Norfolk	do						.21		1.07	1.54			.97			.24	.29	T.					.18			.07	.58			.57		5.72
Plymouth	do	T.					.62			.20			.32				.62	.02		.15			.14		.04		.92		.16	*	.29	3.48
Princeton	Merrimack						.26		*	.59			.04			.58							.42				.43	.18		.54		3.04
Provincetown	Coast						.73			.16			.28			.05	1.03	.08	T.				.14		.04		1.53		.21	.08	.10	4.43
Rockport	do	.45					.10			.70						.35	.70						.35						.30	.25	.30	3.50
Rutland	Connecticut		.01				.30		.05	.68		.05	T.			.48		T.					.45	.02		*	.30	.13		.00		3.07
Somerset	Coast						.46			.23		.10				.34							.15		.09	.16	.36	.13		.42		2.44
South Egremont	Housatonic					.12		.36	1.20	.19		.38				.12						.50				.65		.15	.02	.16		3.85
Spot Pond	Coast						.18		.03	.46		.06				.74						.19	.02			1.08	.03	.06		.49		3.34
Springfield	Connecticut						.49		.57	1.09		.76				.21	T.						.52			.28	.10	.09	T.	1.17		5.28
Sterling	Merrimack						.34			.53							.62						.41				.42		.06		.62	3.00
Taunton	Coast	.04					.37		.02	.21		.44				*	.42	T.	T.				.15		.06		.51	.21		.38		2.81
Turners Falls	Connecticut						.62		.22	.71			.07				.48						.54			T.	.05	.12		.82		3.63
Westboro	Merrimack						.38		T.	*	*	.87					.33	T.					.23			.40	.03		.05	.55		2.84
Williamstown	Hudson						1.03		.60	1.26						.24		.04					.51			.02	.03	.08		.40		4.21
Winchendon	Connecticut						.45		.13	.52						.34	.05						.48			.38		.15	T.	.62		3.12
Worcester	Coast	.31					.53		.09	.82		.38				.39	.20	.01					.17			1.72	.10	.43		.59		5.74

TABLE 2.—*Daily precipitation for September, 1911. District No. 1*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Rhode Island.																																
Block Island	Coast						.34			.02						.06	.11	T.					.72		.01	.01	.25	.05		.46		2.03
Bristol	do						.22		T.	.07	.02					*	.19						.11		.11		.26	.02		.46		1.46
Greene	do	.06					.43			.21		.06					.15						.19		.22		.34	.08		.55		2.29
Hope Valley	do	.09					.54	T.		T.		.05				.06	.24	T.					.12		.12		.22	T.	.09	.52		2.05
Kingston	do	.10					.50		.12			.05				.15	.20						.34		.06		.16	.12		.51		2.31
Narragansett Pier	do	.16					.84	T.				.22				.03	.25	T.					.72		.03		.36	T.	.08	.57		3.26
Pawtucket	do						.17		*	.11		.42				*	.24						*	.15	.09	*	.22	.05		.56		2.01
Providence	do						.17		T.	.11		.34				.13	.02	T.					.14		.06	.05	.31	.07		.61		2.01
Wallum Lake	do						.22		.20	.81		.66				.20							.19		.04		.27	.13		.55		3.27
Connecticut.																																
Bridgeport	Coast	.03					.10	.01	.19	.04		.10				.10	.10						.76		.11	T.	.25		T.	.90		2.69
Canton	Connecticut						.60		.31	2.00		.50				.18							.34				.24	.08		.73		4.98
Colchester	Coast	.10					.14	T.	T.	.06		.38					.35						.31		.15	T.	.44	T.		.85		2.78
Cream Hill	Housatonic						.53		.38	.66		.41				.08							.70			.15	.13	.11		.71		3.86
Danielson	Coast	.75					.20			.05		.25				*	.17						.40		.10		.27		.71	.70		3.60
Falls Village	Housatonic						.41		.20	.99		.22		.04								.24	.26			.40	.13	.07		.52		3.48
Hartford	Connecticut						.08	T.	.01	.25	T.	.25				.08						.02	.27		.02	.12	.21	.06		.63		2.00
Hawleyville	Housatonic						.19		.32	.02		.12				.11	.11						.34				.40			.63		2.24
Lake Konomoc	Coast	1.30					.38										.15						.50			.10	.35		.10	.70		3.58
New Haven	do						.11		.06	.10		.03				.14	T.					T.	.54		.11	T.	.49	T.		.75		2.33
New London	do						.35					T.					.15						.60		.25		.20	.07		.65		2.27
N. Grosvenor Dale	do	.13					.13		.13	1.07		.55				.05	.02	.01					.17		.06		.11		.02	.61		3.06
Norwalk	do						.12		*	.70		.60				.30							.65		.04	.02	.09			.77		3.29
Southington	do	.10					.20		.05	.20	.05	.15				.20	.15						.20		T.	.15	.10			.60	T.	2.15
South Manchester	Connecticut						.04	.02	.01	.19	.02	.22				.05							.15				.23			.25		1.18
Storrs	Coast						.15		T.	.09		.17				.20							.34		.07	T.	1.20		.01	.71		2.04
Voluntown	do																															
Wallingford	do					.10	.03		.15			.07				.12						.35			.11	.43	.07	.05		.79		2.27
Waterbury	Housatonic						.19	T.	.06	.12		.07				.07	.08						.36		.03		.44	.12		.70		2.24
West Simsbury	Connecticut						.50		.22	2.00		.70				.05							.46		.03	T.	.19	.04		.77		5.05
New York.																																
Addison	Susquehanna					.11	.83		.02	.76		T.	.05			.47	.01					.10	.05			.15	.32	.29		.68	.03	3.87
Albany	Hudson	T.	T.			.01	.76	.01	.75	.50			.08			.06						.12	.02			T.	.02	.03		.50		2.86
Alfred	Susquehanna			.07		.25	.75		.05	.48			.27			.36				T.		.13				.05	.33	.02	.10	.48		3.34
Amsterdam	Mohawk		.10	.15			.50	T.	1.00	.70			T.			.14							.37			T.	T.	.06		.80		3.82
Athens	Hudson	T.					.62	T.	1.18	.38		.24	T.			.20							.26			.02	.04	.02	.01	.22		3.19
Bainbridge ‖	Susquehanna																															
Ballston Lake	Hudson	T.	.01	.07			1.42	.02	.88	.81			.14			.06							.11			.03		.02	T.	.90	T.	4.47
Bedford	Coast	.03					.20		.37		.02	.16				.09	.05						.25				.45	.01		.94		2.57
Beerston	Hudson																															
Binghamton	Susquehanna					.06	.51	T.	.10	.81		.02				.03						.11				.19	.15	T.		.37		2.35
Blue Ridge	Hudson			.07			1.21			.50			.23			.79							.40							.30	3.50
Bouckville	Susquehanna		.12	.12			.70	.02	1.82	.74			.24			.25										.04		.07		.77		4.89
Carmel ‖	Hudson						.33			.35	.03	.45					.18						.33				.49	.03		.20	.43	2.82
Chatham	do						.42		.57	.65	.04	.09	.07			.47							.26				.17	.10	.05	.25		3.14
Cooperstown	Susquehanna		.11			.75		1.15	.20	.25		.10	.12			.14						.22			.05	.09		.11		.77		4.06
Corinth ‖	Hudson			1.25			1.25		.55	.72	.24						.35				.56					.25	.20			.60	5.97
Cortland	Susquehanna			.14			.88		.58	.25	.10		.28			.14							.52			.04	.03	.01	.08	.18	.03	3.26
Cutchogue	Coast	.10					.28									.02	.10						.38		.05		.14		.04	.78		1.89
De Ruyter	Susquehanna		T.	.21		1.13			T.	T.	.53		.47			.10						.15	.34			.19	.12			.47		3.71
Easton	Hudson																															
Glens Falls	do	.03	.07	.63			.79		.45	.61			.22			.39	.18						*			.19	.08	.09		.58		4.31
Gloversville	Mohawk		.20	.43			1.24	.06	1.04	1.25			.16			.40	.02						.56			.52		.15	.03	.82		6.88
Greene ‖	Susquehanna						1.25		.07	.36	.25	.14	.09										.22				.09		.16		.13	2.76
Greenfield Center	Hudson		.73				1.50	.04	.57	.83			.10			.31	.22						.47			.16	.04	.11		.64		5.72
Greenwich	do			.68			.82		.60	.78			.04			.40		.03					.38			.06	.01	.05	.01	.44		4.30
Griffin Corners	Delaware						1.03	T.	.51	1.13	.13	.07	T.										.47				.11	T.		.38		3.83
Hancock ‖	do						1.83		.20		.54	.10					.10						.42					.41	.07		.80	4.47
Haskinville	Susquehanna			.18		.12	.62		T.	.47			.25			.13						.05				.07	.13		T.	.48	.05	2.55
Homer	do		T.	.30		.05	.71	T.	1.10	.25			.32			.12					T.	.10	.53			.07	T.	.01		.31		3.87
Hoosick Falls ‖	Hudson			.27			.95		.70	.27	1.06		.05	.06		.04	.29	.23					.33				.11			.09	.54	4.99
Indian Lake	do	.05		.10			1.10		.15	.50						.30	T.						.15			.10		.10		.15		2.70
Jeffersonville	Delaware						1.01		.25	.45						.09							.09			T.	.40	T.	.05	1.08		3.42
Knowelhurst	Hudson			.70			1.01		.31	.52			.32			.44							.27			.05			.14	.55		4.31
Liberty	Delaware					1.40			.30	.20	.15					.06	.18						.21				.43	.08		1.00		4.01
Little Falls	Mohawk		.40	.50			1.10	.08	1.02	1.13			.22			.50						T.	.60			.14		.13		.43		6.25
Mechanicsville ‖	Hudson		.14			1.60		.88	.52	.75		.05				T.	.06	T.				.16				.15		.05	.04	.65		5.05
Mohonk Lake	do					T.		1.32	.20	.15		.15			.29								.25			.05	.42	.01		.72		3.56
Morehouseville	Mohawk	.15		1.00			1.23		.32	.93			.45			.49							.49			.05		.38		.56		6.05
Morrisville ‖	Susquehanna			.28			.73		1.32	.64			.27				.26						.47			.03				.80	.06	4.86
Mount Hope	Coast						.25		.30	.20		.25				.30	.40						.30							.55		2.55
Newark Valley	Susquehanna			.02			1.01		.12	.38		.10	.08				.17					T.					.19			.34		2.41
New Berlin ‖	do			.08			1.28	T.	.70	.20	.19		.24				.07						.23			T.	.14			.17		3.30
Newcomb	Hudson							1.02	.40	.36				.54												1.10			1.40		4.82
New Lisbon	Susquehanna			.02			.64		.73	.35	.11		.18			.08							.20			.10		.03		.35		2.79
New York City	Coast						.07			.02	T.	.05				.11	.01					.13	.27	T.	.02		.31	T.		.51	.01	1.51
North Creek	Hudson		.34			.91			.58	.63						.76							.25					.35				3.82
Northville ‖	do		1.22			1.57		.70	.50							.10						.54			.40		.15		.18		5.36
Oneonta	Susquehanna						.78		.70	.39			.12										.14			.13	.01			.28		2.55
Oxford	do				.05	T.	.91	T.	.50	.40	.05		.39			.07						.12				T.	T.	T.				2.49
Oyster Bay	Coast																															
Port Jervis	Delaware						.50	.01	.52	.05		.07				.02							*	.31			.01	.40	.43		.97		3.29
Rome	Mohawk																															
Salisbury	do		1.16				1.80		1.08	.81			.22			.50							.51			.31		.18		.72		7.29
Scarsdale	Coast	T.							.25	T.		.10				.10							1.20				.15			.55		2.65
Setauket	do	.08					.28		.10	.01		.04				.11	T.						.54		.11		.10	T.		.72		2.09
Sherburne ‖	Susquehanna			.28			1.05	T.	.61	.78			.25										.59							.25	.23	4.04
Southampton	Coast	.11				.22						T.				T.	.10						.57		.08	T.	.51	T.		.68		2.27
Spier Falls	Hudson		.21	1.10			1.36		.56	.76			.22			.34		.03					.03			.18	.07			.07		4.93
Trenton Falls ‖	Mohawk	T.		.47			1.10		.63	.50	.07		.47				.42						.45				.07		.19		.20	4.57
Tribes Hill	do		1.10				.60		T.	1.60						.20						T.	.60							.80		4.90
Utica ‖	do			1.47			.70		1.10	1.00	.10	.20				.05	.20						.38				.50				.40	6.10
Wading River	Coast	.15					.25									.14	.25						.37		.21		.34	.02		.90	.10	2.73
Wappingers Falls	Hudson						.48	.15	.18	.24		T.				.16						.31	.62				.28	.16	.84			3.42
Warwick	do						.27		.52	.05		.20				.06							.50				.45	.05		.60		2.70
Waverly	Susquehanna				.04		.92		T.	.61		.02				.21						.05	.06				.48	.01		.63	.02	3.06
Wells	Hudson			.54			1.45		.34	.58			.60			.40							.40					.22		.52		5.05
West Berne	Mohawk						.94		.73	.35		T.				.37							.11			T.		.26		.41		3.17
West Point ‖	Hudson	1.60					.70		T.	.30	.10						.30						.70				.50			.40		4.50
Windham	Mohawk						1.08		.84	.36		.17	.02			.13							.36				.13	T.	.01	.22		3.22

TABLE 2.—*Daily precipitation for September, 1911. District No. 1*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Pennsylvania.																																
Altoona	Susquehanna	.02					.69	T.	.04	.66						2.86	T.						.20				T.	T.	.69		.04	5.20
Ansonia	do						.79		1.06	.00	.12				.39		T.						.21			T.	.52		.85		.15	4.18
Bellefonte	do					.53			.12	1.68					1.71	.33						.40				.10			1.20			6.09
Bethlehem	Lehigh							.08		.06		.23				.30	.12						.09					.04	.93			1.85
Catawissa	Susquehanna					.10	.31			.72					.10	.38						.09					10	.05		.86		2.71
Center Hall	do						.43		.19	1.90	.01					1.90	.01			T.		.09	.23			T.	09	T.		.85		5.70
Clearfield	do					T.	.52			1.54						2.00						.27	.03					.23		1.34		5.93
Coatesville	Coast						.08			.28		.43				.84	.03					.14						.05		1.44		3.29
Doylestown	Schuylkill											.74				.65							.25							1.40		3.04
Drifton	Susquehanna	.03					.80	.20	.05	.50		.50				.42	.18					.03					.15	.06		1.15		4.07
Emporium	do					.39	.94		.15	1.14		.10			.21	1.43				.05		.22				T.		.22		1.29		6.14
Ephrata	do	.02						T.	.02	.93		.70				1.01	.03						.12					.07		1.07		3.97
Everett	Juniata						.25			1.41			T.			1.75	.39			.08		.19						.30	.91	.85		6.13
Forks of Neshaminy	Delaware									.02		.50				.59	.05						.18							.93		2.27
George School	do	.30					.15	.03		.02		.39				.59	.05						.13	T.	.01	.02	03	.01		.88		2.61
Gettysburg	Potomac	T.					.07			.63	.03					1.45	.05	.07				.05	T.					T.	.09	1.05		3.49
Girardville	Susquehanna					.46	.30		.04	.70		.33			.15	.48						.03				.02	.31	.07		.80		3.69
Gordon	do	.04					.71		.04	.79	.02	.44				.58	.05				.04		.01	.01			.51	.12		.89		4.25
Hamburg	Schuylkill					.12	.09			.19		.11				.79						.19							.37			1.86
Hanover	Susquehanna						.06			.43						1.06	.05											.02		1.05		2.67
Harrisburg	do					.06	.04	.09	T.	.99	T.				T.	1.12	.02					.06	.03			.01	T.	.19		1.07		3.68
Huntingdon	Juniata						.77		.10	1.18			T.			2.53	.05					.06	.12				T.	.52		1.31		6.64
Hyndman	Potomac					.20	.15		.09	.92		T.			T.	2.20	.58			.25		.31						.80	T.	.60		6.10
Kennett Square	Coast						.09			.12			.13			.68	.05					.34				.05		T.		1.30		2.76
Lansdale	Schuylkill	.30					.09	.09				.63				.77	.02						.06			.08		.04		1.14		2.95
Lawrenceville	Susquehanna					.10	.45		.05	.65		.10	.10			.50						.10					.60			.85		3.50
Lebanon	do	.03					.13	.02	.01	.87	.02	.38				1.08	.05					.07				T.	T.	.14		.73		3.53
Le Roy	do					.01	.91	.01		1.00	.07	.13				.23						.05	.06			T.	.70			.80	.03	4.00
Lewisburg	do						.96		.03	.98	.02	.06				.72							.27				.08	.03		.82		3.97
Lloyd	do					.40			.60	.10						.15						.15						.16	1.13		2.69
Lock Haven	do	.02				1.10				2.30					.93	.06				T.		.14					.04	.05		1.19		5.83
Marion	Potomac									.69						1.53	.11		T.			.14						.20	.10	.74		3.51
Mauch Chunk	Lehigh						.94		.04	.55		.60				.38						.15	.23				.36	.04		.91		4.20
Mifflintown	Juniata						.48			1.57						1.64	.06					T.	.19				.32	.14	.01	1.20		5.61
Milford	Delaware	.02					.79	T.	.70			.24				.09	.02						.23		.31	.02	.26	.02		1.02		3.42
Montrose	Susquehanna						1.40		.20	1.08		.02				.10							.27			.55	.05			1.10	.07	4.84
Mountain House	Juniata						.18	.22		1.56	.24					2.33	.24						.16					.30	.07	.80		6.10
Mount Gretna	Susquehanna	.02					.18	.17	.01	.57	.01	.56				1.09	.05					.10				.02		.08	T.	1.08		3.94
New Germantown	do	.04					.36		.12	.90						2.00	.09													1.98		5.49
Ottsville	Delaware	.02								.32		1.01				.60							.13				.04			.94		3.06
Philadelphia (1)	do					T.	.10		T.	T.		.72				.38	.05					.04	T.	T.		.10		T.		1.13		2.52
Pocono Lake	do						1.03	.08	.40	.31		.18					.11						.11				.16	T.		.87		3.25
Point Pleasant	do	.02					.07			.05	.02	.60				.60	.05						.11					.28		.80		2.60
Pottsville	Schuylkill						.74		.14	.80		.46				.70	.02					.14	.02					.16		.91		4.09
Reading	do					T.	.06	.05	.02	.31		.13			T.	.72	.02					.18						.06		1.00		2.55
Renovo	Susquehanna						.66			.98	.32					.84	.35						.26				.05	.90	.20		4.56
Scranton	do					.02	.45		.04	.64		.03				.12						.04	.09			T.	.45	.03		.99	T.	2.90
Seisholtsville	Schuylkill						.14		.09	.28		.31				.63						.13					.05			.91		2.54
Selinsgrove	Susquehanna						.70		.03	.94		.44				1.45	.03	.05									.50	.07		.75		4.96
Shawmont	Schuylkill						.12					.71				.53	.07					.05					.06			1.10		2.64
Shippensburg	Susquehanna					T.	.61	.70		1.11	.85					1.62			T.			.15							.08	1.06		6.18
Smith's Corners	Schuylkill									.15		.51				.65							.13				.04			.94		3.06
Spring Mount	do						.05		.07			.73				.75	.19					.06						.03		.19		2.07
State College	Susquehanna					T.	.76		.04	1.58						1.73	.02			.06		.04	.34			.02	.07	.06	T.	.69		5.41
Stroudsburg	Delaware						.56		.05	.10		.11				.07	.11						.42				.07	.02		.95		2.46
Towanda	Susquehanna	T.				T.	.47		.02	.71		.20	.02			.17						T.				T.	.62	.02		1.12	.02	3.37
Weikert	do					1.94				.33	1.21					1.49						.09					.06	.04		.95		6.11
Wellsboro	do						.70			.96		.16				.27					.06					.15	.71			.87		3.88
West Chester	Coast	.02					.09		.01	.11		1.25				.76	.06					.07				.01		.02		1.50	.01	3.91
Wilkes-Barre	Susquehanna		.32					.38			.66			.06		.08	.04						.15				.40		T.	.55	.30	2.94
Williamsport	do						.54		T.	1.67		T.				.35							.04				T.	.02		.87		3.49
New Jersey.																																
Asbury Park	Coast						.51				T.		.33			.11	.10						.37	T.			T.		.18	.93		2.53
Atlantic City	do	.02					.01				T.		.26			.31	.14					.02	1.17	.04					.04	1.01		3.02
Bayonne	do	.16					.11				T.	.05	.11			.14	.06					T.	.37		.02		.25	T.		.63		1.90
Belvidere	Delaware						.14				.08		.39			.07							.51				.17	.03		.98		2.37
Boonton ‖	Passaic	.88					.14					T.	.10	.09			.15						.22				.17			.20	.68	2.63
Bridgeton	Coast						.15				T.		.15			.45							1.20							1.25		3.20
Burlington ‖	Delaware						.07						.37			.70	.03					.05		.01		.05	.05	.48		1.04		2.85
Canton	Coast						T.					T.				.59	T.						.83							.90		2.32
Cape May City	do						.04			.08	.10	T.				.24							.07							.55		1.08
Charlotteburg	Passaic						.26			.32		.60				.27							.53				.17			.89		3.04
Chatham ‖	do	1.90									.20	.20				T.	.40						.25				.15		.10	.20	.40	3.80
Clayton	Coast	.17								T.		.10				1.16	.17						1.27							1.29		4.16
College Farm	do	.16		T.			.10		T.	.02		.49	T.			.45							.25	.03			T.	.01		.77		2.28
Culvers Lake	Delaware						.63		.12	.03	T.	.60				.81							.63				.25	T.		1.14		4.21
Dover	Passaic	.03					.16			.02		.82				.24							.29	.03			.35	.02		.94		2.90
Elizabeth	Coast						.10			T.	.10	.10				*	.32					T.	.30	T.			.35	T.		.72		1.99
Flemington	do	.24					.14	T.		.18		.52				.23	.20						.11		.03		.06	T.	T.	.89		2.60
Haddonfield	Delaware	.04					.10	T.		.01		.38				.37	.11					.03	.14	T.	.02	.15		.01		1.11		2.47
Hammonton	Coast	.08					.04			T.		1.31				.32	.14						2.23				T.		.02	1.19		5.33
Hightstown	Delaware	.36					.12					.37				.30	.20						.23				.03	.14		.88		2.63
Highwood	Coast						.08		.04	T.		.39				.10	.11						.52				.44	T.		.74		2.42
Indian Mills	do						.06			.20		.40				.39	.09						1.30	T.	.03	.06	.72	.10		1.09		4.44
Jersey City	do						.07			T.		.07				.20						T.	.47	T.			.29	T.		.66		1.76
Lakewood	do	.12					.01			T.		.33				.25	.19						1.00		.18		.02	T.		1.09		3.19
Lambertville	Delaware	.02					.09	T.		.02	T.	1.46				.60	.17							T.	.26			.11		.78		3.51
Layton	do						.50		.08			.32				.12							.29				.35			1.10		2.76
Little Falls	Passaic						.10					.65				.12	T.					.08	.23				.20	T.		.73		2.11
Mahwah ‖	do						.30						.90				.25						.37								.84	2.06
Moorestown	Delaware						.09	T.	T.	T.		.76				.43	.15					.01	.16	T.	.02	.12	.04	.03		1.15		2.96
Newark	Passaic						.08					.05				.14	.02					.10	.30				.07	T.		.80		1.56
New Brunswick	Coast									.07		.38				.28	T.						.32	.05			.30	T.		.82		2.19
Newton	Delaware	.01					.36		.15	.03		.05				.11							.69				.18	.01		1.00		2.59
Northfield	Coast	.03					.01			T.		.13				.36	.13					.02	1.49	.02					.03	1.18		3.40
Paterson	Passaic	.02					.11			T.		.55				.18							.54				.30	T.		.82		2.52
Phillipsburg	Delaware						.14	.01		.03		.76				.22	T.					.18	.05	T.			.37	T.		.89		2.65
Plainfield	Coast						.24		T.	.04		.28				.40	T.					.08	.23	.02			.44	.01		.87		2.61
Pleasantville	do						.01			T.		.65				.42	.10					T.	1.30	.03					T.	1.44		3.95
Pompton Plains ‖	Passaic	.84					.18			T.	.02	.10	.18			T.	.26						.29				.31		.01	.30	.48	2.97

TABLE 2.—*Daily precipitation for September, 1911. District No. 1*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
***New Jersey*—Contd.**																																
Rivervale	Coast	1.40					.15		.25							.20							.35					.15		.35		2.85
Somerville	do	.25					.10			T.		.33				.47							.20	.01			.22	T.		.85		2.43
South Orange	do						.07				T.	.07				.29							.27	T.			.07	T.		.67		1.44
Sussex	Hudson						.50		.02	.02		.67				.11							.48			.16	.26	.02		.89		3.13
Tuckerton	Coast	.03					.10					.26				.49	.11						1.95	.08			.10			1.35		4.47
Vineland	do						.06			T.		.22				.35	.36						1.54	T.					T.	1.47		4.00
Woodbine	do	.02								T.		.20				.34	.03						1.40	T.				.03	1.14			3.16
West Virginia.																																
Bayard	Potomac	T.		T.		T.	T.	.16	T.	.22	.22	T.	.02	.02	T.	1.43	.20			.68		.35	.29					.10	.20	1.08		4.97
Burlington	do							T.				.75	T.	T.		1.10				.58		.27						.30		1.30		4.30
Harpers Ferry ‖	do	.11									.22					.98	.52												.84	.61		3.28
Lost City	do			1.34		.03				.43						.56	.26			.11		.11						.28		.35		3.47
Martinsburg	do						T.			.47		.06				1.60	.50		T.			.07	.05					.52		.75		4.02
Moorefield	do	.71		T.		T.			.55	.35		.35		T.		1.89	.75			T.						.25	T.	.73	T.	T.	T.		5.58
Romney ‖	do	.02						T.		.25	.32	.18		T.		.83	.30				.40	.22								.20	.87	3.59
Upper Tract	do								T.	.08		.10	.30			1.10	.26				T.	.15					T.		.20	.20		2.39
Maryland.																																
Annapolis	Coast							T.		.01		.08				.48	.11						T.			T.				.24		0.92
Baltimore	do						.02			.13		.07				.79						.07						T.	.01	.51		1.60
Cambridge	do										.37	.79				.75	.05					.33										2.29
Cheltenham	do						.03		.03	.01		.48				.46				.01		.02		T.		.01	.01			.08		1.14
Chestertown	do	.05					T.			.07		.14				.55						T.	.45							.77	T.	2.03
Chewsville	Potomac									.24				1.09				1.28				.05					.65			.75	T.	4.06
Clear Spring	do						.06	.06			.15					1.18	.28	.09	T.		T.		.32							.03	.65	.06	2.88
Coleman	do									.07						.60	.05					T.	.48							.82		2.02
College Park	do									.07		.37				.85	.28					T.								.38		1.95
Cumberland	do						.18			.50	.15	.05				2.00	.55	.05			.20		.18				T.		.40	.80	.02	5.08
Darlington	Coast								T.	.34						.98	.04					.03	T.						T.	1.09		2.48
Denton	do											.10				.14							1.30				.08			.37		1.99
Easton	do						.04				.52	.32				.99	.09						.85			.54				.48		3.83
Emmitsburg	Potomac									.30						1.03	.67													1.08		3.08
Fallston	Coast	T.					.08		T.	.20	.01	.36				.91	T.					.03	.07					T.		1.18		2.84
Frederick	Potomac						.02			.17	.01	.07				1.42	.25					.14	.02		T.		T.		16	1.04		3.30
Frostburg	do							.25	.32	.24			.13			2.18	.45			.06		.11	.23			.02			.16	.74		4.89
Great Falls	do	1.10									.03	.20				1.10	.13						.26						.25	.18		3.25
Green Sp'g Furnace	do					.05				.40						1.18	.29					.38							.04	.80		3.14
Keedysville	do									.20	.02	T.				1.21	.39					.05						T.	T.	.74		2.61
Lake Montebello	Coast						.03	T.		.11	T.	T.				.82	T.					.09		T.	T.			T.	T.	.65		1.70
Laurel	do									.15		.17				1.12	.13					T.							T.	.64		2.21
Leonardtown	do				.09		.03				T.	.55				.25	.03				.01	T.	.38				.54			.07		1.95
Monrovia	Potomac	.01					.05			.15		.05				1.30	.17					.02							.10	.74		2.59
Pocomoke City	Coast				.50							.65				.26					T.		.10	.29	.03					.09	.23	2.15
Porto Bello	do			.30							1.10					1.09						T.			T.					.10		2.80
Princess Anne	do			.95							.19	.40				.22						T.	.04							.05		1.85
Salisbury	do				.16						.05	.41				.47	.02		T.				.31							.24		1.66
Solomons	do			T.						T.	.28	1.60				.19	T.				T.	.05	.25		T.	.13				.04		2.54
State Sanatorium	Potomac	.02					.05	.01	T.	.22	.02	T.				1.41	.33	T.	T.	.01		.07	.03					T.	.20	.72		3.09
Sudlersville	Coast	.02					.04			T.						.38							.59							1.12		2.15
Takoma Park	do	.80					.01				.10	.40	.09			.40	.50	.35					.06						.02	.03	.18	2.94
Taneytown	do						.02			.30						1.50												.15	1.30			3.27
Towson	do	.01					.04		T.	.18		.30				.77	T.					T.	.09							.47	.13	1.99
Van Bibber	do						.05			.18						.86						.11										1.20
Westernport	Potomac	.02				.06				.62		.06				1.20	.24			.20		.48						.06	.94			3.88
Westminster	Coast	T.					.06			.20	.04					1.06	.04					.02							.05	.52		1.93
Woodstock	do	.04					.05	T.	T.	.16	T.	.70	T.			1.04	.40		T.			T.	.06		T.				T.	.63		3.08
Delaware.																																
Delaware City	Coast						.07			T.		T.				.57						.42						T.	1.04		2.10
Dover	do			.15						.12		.59	T.			.40	T.					T.	.65							.77		2.68
Milford	do	.05			.30							.16	T.			.48						.10	.41							.38	.24	2.02
Millsboro	do															.64	.04						.18	T.	.30					.51		1.67
Seaford	do										.03	.06				.67	.06				T.		.17		.01		.26			.24	.05	1.55
District of Columbia.																																
Washington	Coast			T.			.02			.06		.55		T.		1.07	.02					.02				.09	T.	T.	.01	.17		2.03
Virginia.																																
Culpeper	Rappahannock			.38							1.28	.39	.62			.27	.13			.11								.05				3.23
Dale Enterprise	Shenandoah					T.	.05	.02		.17		.55	.01		T.	.43	.19			.06		.14					T.		.01	.09		1.72
Doswell	Pamunkey											1.56				.12	.31															1.99
Eastville	Coast	.43			.13							.56		T.		.22	.07							.42						.02		1.85
Fredericksburg	Rappahannock			1.12	.03		.01				.38	.41	.32	T.		.22	.09					.08	.02				.46			.02		3.16
Lincoln	Potomac						.02			.11		.37				1.38	.05					.05						.05		.41		2.44
Mount Weather	do						.01			.15		.08		T.		.95	.01			T.				T.				T.		.23		1.43
Quantico	do			.07								2.43				.29																2.79
Staunton	Shenandoah			.60		T.		.81		.05		.61	.20	.04		.11	.06			.20		.52						.04		.12		3.16
Woodstock	do			.04				.01		.15	.01	.09				.43	.28			.14			.02					T.	.08	.24		1.49

* Precipitation included in that of the next measurement.
† Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1911. District No. 1, North Atlantic States.*

Date.	Maine.												Concord, N. H.		Massachusetts.								Providence, R. I.		Connecticut.			
	Eastport.		Greenville.		Orono.		Portland.		Presque Isle.		Rumford Falls.				Amherst.		Boston.		Middleboro.		Nantucket.				Cream Hill.		Hartford.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	65	52	67	49	71	50	69	52	67	42	71	53	77	53	78	53	78	54	74	54	67	58	77	54	72	49	78	55
2....	72	55	78	54	80	47	79	60	69	49	81	52	86	53	84	58	85	64	81	53	73	62	82	63	80	57	83	63
3....	71	53	66	54	79	60	76	57	68	47	72	50	76	52	79	53	81	64	81	63	73	61	81	60	74	56	79	61
4....	68	48	65	40	81	41	70	50	68	37	68	43	72	43	78	46	76	59	75	45	72	58	75	54	76	48	76	52
5....	66	48	72	40	73	38	70	50	74	44	74	42	76	46	76	47	77	59	75	47	71	58	74	55	73	52	76	53
6....	66	54	66	55	73	58	79	57	64	49	72	53	79	57	80	62	84	64	82	60	71	61	83	65	76	54	82	66
7....	62	48	60	38	73	37	62	50	60	35	66	43	65	50	62	56	65	57	68	55	68	58	66	58	79	49	68	50
8....	62	48	64	39	78	38	66	52	68	28	59	48	57	53	58	53	61	56	63	54	64	59	62	58	59	49	60	56
9....	56	46	53	42	75	47	57	54	61	34	58	53	58	54	58	54	63	58	64	56	69	60	64	56	58	50	59	55
10....	70	53	60	49	70	53	70	55	68	48	73	53	77	53	81	57	80	61	80	59	74	62	80	62	72	51	81	59
11....	70	52	72	52	79	49	74	55	73	48	74	50	78	49	74	52	75	63	79	59	68	61	74	60	70	50	73	59
12....	64	51	62	48	78	55	73	49	66	45	66	50	74	47	76	52	78	53	79	66	75	59	78	55	77	54	79	54
13....	52	42	48	36	73	39	54	41	61	32	51	35	55	35	56	37	56	45	66	40	59	51	55	44	61	37	57	42
14....	53	36	52	27	57	25	59	37	55	27	57	30	61	29	67	29	63	41	62	31	58	46	62	38	60	32	64	37
15....	54	43	52	30	60	30	58	45	55	25	55	32	56	33	62	38	62	48	60	34	64	46	64	44	57	38	64	46
16....	55	52	68	44	64	48	63	55	68	45	71	52	79	54	81	60	68	59	75	57	66	58	73	59	78	46	79	62
17....	61	54	68	51	66	47	60	54	69	54	68	50	67	48	72	52	64	57	64	56	64	57	66	58	79	56	72	55
18....	62	54	70	51	69	52	67	54	69	33	70	52	72	50	76	52	69	58	65	55	61	58	68	56	81	54	73	56
19....	61	54	69	53	72	52	65	55	74	50	76	58	80	58	80	54	65	58	65	55	61	57	71	58	78	51	78	57
20....	73	56	70	53	76	56	77	55	72	58	72	52	76	52	80	52	75	56	78	48	71	57	80	56	74	56	79	56
21....	65	50	64	40	77	38	64	50	66	32	68	43	70	41	77	44	63	56	69	44	57	56	74	54	69	49	77	51
22....	58	52	62	46	70	45	73	56	60	45	68	51	74	52	80	54	77	59	80	56	66	58	79	60	71	50	78	61
23....	65	49	74	42	78	39	70	51	75	35	72	45	74	43	77	50	67	56	72	47	65	51	74	55	74	52	78	54
24....	63	52	76	41	72	47	71	51	78	48	76	49	79	50	78	57	79	58	76	46	70	52	77	57	81	55	78	56
25....	54	49	60	46	69	50	82	51	74	42	68	52	85	57	82	64	84	61	77	63	66	61	79	67	77	58	82	65
26....	49	43	51	42	70	46	58	44	52	38	58	43	66	40	66	43	61	51	63	50	64	55	69	47	68	59	70	48
27....	51	41	50	31	56	34	57	40	52	36	52	35	58	34	60	34	63	45	62	37	61	53	65	43	65	36	62	42
28....	54	37	50	34	56	43	57	41	50	35	51	40	58	35	60	38	62	48	61	40	63	52	63	44	64	45	61	44
29....	45	35	41	28	55	25	49	37	45	24	38	31	47	33	45	35	57	43	57	30	63	46	58	40	56	44	53	39
30....	50	38	46	32	52	36	54	40	51	33	52	38	56	39	61	40	58	45	57	46	57	48	58	44	54	37	59	46
Mns..	60.6	48.2	62.4	42.9	70.1	44.2	65.8	49.9	64.4	39.9	65.2	45.9	69.6	46.4	71.5	49.2	69.9	55.2	70.3	49.9	66.4	56.0	71.0	54.1	70.4	49.1	71.9	53.7

Date.	New Haven, Conn.		New York.										New York.		Pennsylvania.												Atlantic City, N. J.	
			Addison.		Albany.		Binghamton.		Indian Lake.		Little Falls.				Everett.		Harrisburg.		Philadelphia.		Scranton.		State College.		Wellsboro.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	77	56	85	56	77	57	80	57	72	43	76	53	76	56	81	56	81	58	78	58	79	57	80	58	82	54	78	58
2....	82	63	87	51	90	61	85	57	79	45	83	58	81	64	87	55	85	62	84	65	86	57	82	56	85	51	76	68
3....	80	62	77	57	79	60	73	50	76	48	75	56	81	67	79	47	83	65	86	66	75	55	81	59	80	58	87	69
4....	75	55	79	44	74	52	74	45	70	39	82	47	73	59	76	54	76	56	76	61	75	48	85	48	79	42	73	60
5....	77	54	70	45	76	55	72	45	74	37	73	48	75	63	75	63	75	58	79	60	73	51	70	53	78	43	78	66
6....	84	68	85	62	80	64	77	62	68	55	71	60	83	68	80	66	82	68	85	71	79	67	78	64	80	60	88	72
7....	71	62	70	59	64	56	64	59	57	41	61	51	74	62	85	61	82	67	76	67	69	64	78	62	70	58	75	69
8....	68	58	70	58	60	52	66	60	55	44	55	48	69	61	82	65	70	66	74	64	67	60	77	62	77	61	72	68
9....	65	55	80	62	64	55	71	58	60	49	62	50	68	60	76	65	68	62	76	64	72	59	70	65	78	62	77	68
10....	82	61	83	60	80	59	78	57	73	50	73	56	82	62	77	62	83	65	78	67	79	62	80	68	80	58	78	67
11....	75	60	85	60	76	60	79	59	77	45	76	54	76	66	83	61	81	68	78	66	80	61	81	62	82	58	75	66
12....	82	55	74	57	75	50	71	45	70	51	67	49	81	56	76	60	80	60	84	59	74	51	77	57	73	57	85	62
13....	58	43	60	39	56	42	54	37	54	32	54	36	61	50	71	49	62	51	63	52	55	41	57	44	59	38	62	52
14....	62	39	68	32	62	38	62	31	62	24	64	31	63	48	66	37	63	46	66	46	65	34	66	36	66	30	64	46
15....	64	52	70	52	63	50	61	52	60	30	59	44	64	56	72	54	64	56	66	57	64	52	68	43	66	50	70	62
16....	79	63	84	57	83	61	80	55	76	34	78	55	76	62	78	66	81	63	78	66	78	58	77	51	81	51	72	63
17....	74	57	83	50	76	55	77	48	75	37	76	50	78	63	81	49	82	58	80	63	78	51	78	54	82	45	72	60
18....	74	57	79	49	76	55	74	48	75	38	75	50	74	60	71	60	72	59	74	62	74	57	71	58	76	48	70	60
19....	80	57	85	52	78	52	80	47	79	39	80	49	78	58	80	54	79	54	79	61	77	52	78	49	82	47	73	58
20....	81	59	77	45	76	59	69	51	78	48	69	53	81	64	74	56	76	58	81	66	70	56	76	49	74	45	78	62
21....	72	56	75	46	76	51	75	46	71	35	70	46	71	63	73	56	76	53	77	61	76	50	74	49	71	45	73	61
22....	80	64	74	54	76	60	69	50	69	55	70	56	78	67	77	47	75	62	80	68	72	56	70	48	72	54	77	68
23....	72	57	80	44	76	52	76	45	75	36	74	48	73	62	76	45	78	56	72	63	77	51	73	45	77	43	69	66
24....	76	59	87	54	79	60	82	60	76	47	82	58	76	60	80	52	80	65	78	63	80	60	80	55	84	56	74	66
25....	78	66	77	57	85	67	78	62	72	54	78	64	83	67	84	55	85	66	84	69	81	62	79	63	76	58	75	68
26....	71	51	69	50	68	45	62	40	63	46	65	47	74	56	74	61	72	52	74	56	69	45	71	53	72	50	75	57
27....	65	43	66	35	58	41	60	36	53	28	57	36	65	52	66	42	59	47	68	52	60	38	60	42	62	36	70	52
28....	63	45	64	48	61	45	60	39	53	30	58	35	66	54	68	54	64	53	68	56	60	43	68	50	64	46	70	55
29....	62	42	71	39	56	43	64	39	50	26	48	34	63	53	77	50	70	48	70	54	62	43	72	49	67	43	73	55
30....	59	46	62	42	60	44	56	42	55	34	45	37	63	48	72	52	60	46	66	52	52	45	59	47	71	40	63	50
Mns..	72.9	55.5	75.9	50.5	72.0	53.4	71.0	49.4	67.6	40.7	68.5	48.6	73.5	59.6	76.6	55.5	74.8	58.3	75.9	61.2	71.9	52.9	73.8	53.6	74.9	49.6	74.1	61.8

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1911. District No. 1*—Continued.

Date.	New Jersey.								Martinsburg, W. Va. §§		Maryland.								Millsboro, Del.		Washington, D. C.		Virginia.					
	Bridgeton.		Hightstown.		Phillipsburg.		Sussex.				Baltimore.		Darlington.		Frederick.		Westernport.						Culpeper.		Fredericksburg.		Staunton. §§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	85	57	80	56	81	56	82	55	83	55	81	59	77	56	80	59	85	58	82	58	82	60	81	55	82	58	84	54
2	88	62	86	61	88	59	85	60	89	58	88	66	84	62	85	63	90	56	85	62	88	64	85	59	86	61	86	60
3	89	67	85	67	83	59	80	65	85	63	89	68	84	64	85	64	82	61	91	67	87	68	89	66	92	65	88	65
4	80	56	80	50	80	50	80	52	89	55	78	63	80	56	79	56	78	50	79	63	81	61	77	60	76	62	76	62
5	82	58	79	53	77	57	77	53	83	58	80	64	.....	.....	81	58	81	56	82	56	83	61	81	60	82	62	89	60
6	87	70	88	68	85	69	82	67	86	58	87	72	.....	.....	85	68	85	66	91	71	87	70	87	69	86	70	87	66
7	85	64	77	62	74	63	73	60	89	63	85	71	.....	.....	87	67	90	62	85	63	89	67	88	62	88	64	88	60
8	75	67	70	63	65	59	65	60	86	67	77	70	84	65	82	72	87	60	79	69	81	70	86	66	83	69	87	61
9	81	64	76	62	69	60	65	58	75	69	76	68	74	64	76	69	74	65	82	70	81	69	82	69	82	67	82	64
10	80	57	85	63	84	63	84	61	84	66	80	66	77	65	84	66	88	63	83	71	86	69	83	67	82	70	84	66
11	80	65	80	63	79	63	76	60	83	66	79	68	81	61	78	68	84	61	76	68	79	67	79	65	76	67	78	63
12	85	62	84	63	81	57	79	61	81	62	85	65	76	61	83	69	81	61	88	62	84	65	83	61	84	63	84	63
13	70	49	73	44	63	46	63	41	65	53	65	53	73	51	72	50	76	47	69	51	65	48	70	54	71	56	68	52
14	69	42	69	36	67	36	65	32	69	42	64	49	65	44	68	43	70	40	70	41	68	46	68	42	68	44	68	42
15	66	52	63	50	61	53	61	49	71	48	69	58	65	54	70	55	74	57	70	56	70	58	72	56	75	58	79	50
16	75	65	78	62	82	60	81	59	80	58	81	67	78	64	78	65	82	66	79	62	81	64	78	67	84	69	83	60
17	82	57	81	52	81	52	79	49	81	55	83	65	83	59	81	54	81	50	79	58	86	61	81	58	80	62	82	53
18	75	56	78	54	77	56	77	53	73	59	73	62	74	59	70	63	73	54	73	57	71	58	72	58	72	61	77	52
19	80	54	81	50	82	50	82	44	81	57	77	59	79	53	77	52	82	59	82	54	80	56	80	59	79	63	85	60
20	82	57	83	56	81	56	79	55	78	60	80	63	78	61	78	67	79	55	79	56	80	59	77	54	79	66	79	63
21	79	56	76	52	78	53	78	50	70	50	75	60	73	53	76	51	75	47	83	58	77	55	77	61	72	60	67	55
22	79	68	82	67	78	59	73	58	76	51	80	67	79	65	77	63	78	58	78	67	79	66	80	60	79	65	78	61
23	71	59	75	57	77	56	79	52	76	56	76	65	78	60	76	57	77	54	75	62	77	63	75	58	78	62	76	53
24	80	64	83	61	80	59	80	59	82	58	81	67	77	63	81	64	83	59	77	65	83	68	81	65	82	67	83	57
25	88	67	87	66	85	64	83	62	86	63	89	68	88	66	85	66	86	59	89	69	89	68	87	64	87	67	87	64
26	78	62	77	62	72	50	70	49	75	65	80	57	79	63	80	65	79	61	81	62	81	56	81	64	82	64	85	66
27	70	48	70	44	64	42	60	39	72	49	71	52	66	45	72	47	74	50	75	48	71	49	70	52	78	51	73	56
28	71	55	69	53	67	45	64	53	70	55	72	57	69	59	72	58	73	62	74	52	72	58	70	65	73	66	76	63
29	75	48	66	42	60	44	59	39	84	56	81	57	75	48	80	54	82	60	80	48	82	59	85	65	82	61	83	61
30	65	52	65	48	64	43	61	45	65	57	66	53	68	52	73	56	77	56	67	49	67	50	80	57	75	60	73	54
Mns..	78.4	58.7	77.5	56.2	75.5	54.6	74.1	53.3	78.9	57.7	78.3	62.6	76.4	58.5	78.4	60.1	80.2	57.1	79.4	59.8	79.6	61.1	79.5	60.6	79.7	62.7	80.5	58.9

a, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1911.

DISTRICT NO. 2, SOUTH ATLANTIC AND EAST GULF STATES.

CHARLES F. VON HERRMANN, District Editor.

GENERAL SUMMARY.

The most striking features of the weather for September were the unusual warmth experienced throughout almost the entire district and the general deficiency in rainfall. The temperature averaged over 4° above the normal, the deficiency in precipitation was 1.25 inches, the number of clear days was large and the winds were light. In every State in the district except Virginia the current month was the warmest on record during the past quarter of a century, and the temperature at many individual stations was above the normal on every day of the month. The excess in temperature was not caused by unusually high day temperatures, but by the almost entire absence of even brief periods of cool weather that are usually of common occurrence in September. At Atlanta, for example, the mean minimum temperature for September based on records for 33 years is 51°, while the mean minimum for September, 1911, was 13° higher; at Savannah it was 9° and at Augusta 15° higher. No touch of frost was reported in any portion of the district. The precipitation was irregularly distributed and in large portions of several States drought prevailed to such an extent that wells, small streams, and lakes never before known to go dry failed entirely. The deficiency in rainfall was especially noteworthy in Florida, where the State average for the month was the smallest for September since the establishment of the climatological section in 1892. Marked deficiencies also occurred in the Virginia and Mississippi areas, but for the central portion of the district, including Alabama, Georgia, and the Carolinas, the average deficiency was only about half an inch.

The highest atmospheric pressure in the district was 30.36 inches at Lynchburg, Va., on the 14th, and the lowest was 29.78 inches at Raleigh, N. C., on the 11th, giving a range of 0.58 inch. All the areas of low pressure passed far to the north of the district and weather conditions were dominated by a relatively large number of moderate areas of high atmospheric pressure. There was but little cloudiness, the insolation was intense, and some suffering resulted from the protracted heat both to men and animals. Conditions were unusually favorable for the rapid harvesting of the cotton crop. No noteworthy local storms occurred.

TEMPERATURE.

The temperature during September was normal in southern Florida, but from that section toward the north the excess in monthly mean temperature gradually increased to over 6° in the northern portions of the States of Alabama, Georgia, and Mississippi. The excess was less marked in Virginia. The mean temperature for the district as a whole was 4.3° above the normal; in Mississippi and Alabama the excess was over 5°, while in Florida it was only 2°. In the western portion of the district the 1st was the coolest day of the month, in the central and northern the 13th or 14th, and in Florida the 19th, but even on these dates the mean was below the normal at comparatively few stations. At Richmond, Va., however, the minimum, 48°, on the 14th, is the lowest temperature ever before recorded in fall prior to September 20. During the last 5 days of September the average daily excess in mean temperature over the larger portion of the district was more than 10°, but the highest for the month did not occur generally during that period, but on scattered dates early in the month or during the middle portion, chiefly the 13th, 14th, or 16th.

The mean temperature for the several States in the district ranged from 81.4° for Mississippi and 81.2° for Florida to 72.6° for the Virginia area. The month was characterized by very steady temperature conditions, and in the Gulf States the range between the highest and lowest monthly means scarcely exceeded 4° or 5°. In view of the fact that the occurrence of monthly mean temperatures exceeding 80° is usually rare in September, even in southern Georgia, it is remarkable that during the current month the means were above 80° at no less than 28 stations in Georgia and 20 in Alabama. In Florida the monthly mean was below 80° at but 3 places. The highest mean for the district was 83° at Biloxi, Miss., Newbern, Ala., Clermont, Fla., and Valdosta, Ga., and the lowest was 64° at Hot Springs, Va. The maximum temperatures were above 90° in every State and exceeded 100° in all except North Carolina and Virginia. Highest for the district, 105° at Maple Grove, Ala., on the 28th and at Lumpkin, Ga., on the 30th; lowest, 39°, at Hot Springs, Va., on the 14th. The minimum temperature did not fall below 50° in any of the Gulf States,

Very warm Septembers also occurred in 1895, 1900. 1906, and 1910.

PRECIPITATION.

The rainfall for September was small in nearly all portions of the district, the monthly amounts exceeding 7 or 8 inches at only two or three places in each State. The district average was 2.87 inches, which is 1.25 inches less than the normal. The greatest deficiencies occurred in Florida, −3.25 inches; in Virginia, −1.91 inches, and in the Mississippi area, −1.24 inches, while in the remaining portions of the district the rainfall was more nearly normal. In the Gulf States the general tendency was toward drought and conditions were favorable for picking cotton and for harvesting crops, but unfavorable for fall planting. The most far-reaching effect of the drought was felt in Florida. At some points in that State the deficiencies in rainfall for the month were as much as 7 or 8 inches—Jacksonville, for instance, −7.15 inches. Wells, streams, and small lakes dried up, cattle ranges deteriorated, and the seeding of winter gardens was delayed. Over limited sections in other States the drought was also quite marked.

The regions of greatest rainfall were on the west coast of Florida just north and south of Tampa, in the southern

portions of Alabama and Mississippi, in the interior of southeastern Georgia, and in the southern portions of the Carolinas. Generally the rainfall was least in the northern portions of the Gulf States and the western portions of the Atlantic States. The total precipitation for the month exceeded 10 inches at 3 stations in Florida, with the maximum 14.27 inches at Tarpon Springs, and only a trace occurred at one station in Alabama—Cordova.

In Virginia and North Carolina the most general rains fell on the 11th and 12th, and from the 21st to 23d; in South Carolina and Georgia from the 1st to 7th and 20th to 25th, and in the remainder of the district no distinct periods could be traced, rain falling irregularly throughout the month. The number of places that received excessive rains was small; the largest amount in 24 hours was 4.50 inches at Clayton, Ga., on the 23d. Less than the average number of thunderstorms occurred.

RIVER CONDITIONS.

Owing to heavy rains during the latter part of August and early in September at a few points a moderate rise took place in some of the rivers in the district early in September, but by the close of the month all streams were again at very low stages. The flood stage was attained only at Lumber City, Ga., on the Ocmulgee River on the 1st, after which a rapid decline took place. Moderately high stages also occurred in the Cape Fear River at Fayetteville, N. C., 27 feet on the 2d, flood stage 38 feet, in the Wateree River at Camden, S. C., 22.4 feet on the 7th, flood stage 24 feet, and in the Pedee River at Cheraw, S. C., 22.4 feet on the 1st, flood stage 27 feet. In all cases suitable warnings were issued. The average stages for most of the rivers in the Gulf States were below the normal. The Chattahoochee River in southwestern Georgia remained remarkably low during the month and navigation below Columbus, Ga., was carried on with great difficulty. At Eufaula and Alaga the lowest stages on record occurred, even breaking the low records already made in June of the present year. The lowest stage at Eufaula, Ala., was −2.6 feet on the 19th, 0.3 foot below the low record of June 20, 1911, and 1.6 feet below the minimum on September 24, 1905. At Alaga the lowest stage was −0.3 foot, the previous lowest being −0.1 foot, October 9, 1905. At Albany, Ga., on the Flint River the minimum stage was −0.7 foot or 0.4 foot below the lowest stage reported in June.

MISCELLANEOUS PHENOMENA.

In all of the Gulf States the prevailing winds were from the east, in the Carolinas from the southwest, and in Virginia from the northeast. The wind movement was small, exceeding an average of 10 miles an hour only at Cape Henry, Va., and at Hatteras, N. C. The maximum wind velocities reported were Richmond, Va., 45 miles from the northwest on the 12th, Hatteras, N. C., 48 miles an hour from the northwest on the 16th, and Tampa, Fla., 42 miles southeast on the 2d. The number of clear days was uniformly large, ranging from 13 in South Carolina to 17 in Alabama and Mississippi. The average number of partly cloudy days was 11, of cloudy days only 4. Two persons were killed by lightning during the month, and a severe local storm occurred at Milton, Fla.

TABLE 1.—*Climatological data for September, 1911. District No. 2, South Atlantic and east Gulf States.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Virginia.																				
Arvonia	Buckingham	350	7	71.8	+ 2.8	91	3	43	14	27	2.23	− 1.27	0.75	0	9	12	14	4	sw.	Rev. Plummer F. Jones.
Ashland	Hanover	221	20	71.6	+ 2.6	89	7	44	14	25	1.26	− 2.13	0.64	0	4	9	20	1	s.	E. L. C. Scott.
Bedford City	Bedford	947	1	73.7	.....	90	3†	54	14	28	1.43	.....	0.47	0	7	12	18	0	e.	E. H. Taylor.
Buchanan	Botetourt	820	7	.....	.....	.....	.....	.....	.....	.....	1.50	− 1.27	0.72	0	4	.....	.....	.....	.....	D. D. Booze.
Callaville	Brunswick	250	17	74.1	+ 4.2	91	7†	47	14	33	1.75	− 1.59	0.80	0	6	15	14	1	ne.	F. M. Gage.
Cape Henry	Princess Anne	20	37	74.4	+ 2.6	90	3	60	19	20	0.65	− 3.43	0.39	0	5	12	11	7	ne.	U. S. Weather Bureau.
Catawba	Roanoke	1,760	1	69.2	.....	88	5	46	9	35	1.75	.....	1.75	0	1	14	14	2	w.	State Board of Health Sanitarium.
Charlottesville	Albemarle	800	22	71.6	+ 3.4	91	7	46	14	29	2.46	− 1.87	0.98	0	10	7	14	9	sw.	Leander McCormick Obsy.
Clarkesville	Mecklenburg	.....	17	.....	.....	.....	.....	.....	.....	.....	1.44	− 1.43	1.02	0	3	.....	.....	.....	.....	J. A. Ligon.
Columbia	Fluvanna	246	13	68.8	+ 0.2	88	3	48	13	28	2.92	− 0.30	0.75	0	6	10	10	10	ne.	C. & O. R. R. Co.
Covesville	Albemarle	.....	1	70.1	.....	91	3	42	14	37	1.62	.....	1.45	0	2	13	12	5	w.	E. F. Cole.
Danville	Pittsylvania	413	11	.....	.....	.....	.....	.....	.....	.....	1.18	− 1.99	0.54	0	7	.....	.....	.....	.....	C. G. Watkins.
Diamond Springs	Princess Anne	25	1	74.8	.....	90	6†	55	19	28	2.68	.....	1.17	0	7	8	14	8	.....	Va. Truck Expt. Sta.
Hampton	Elizabeth City	5	28	75.4	+ 3.8	88	3†	55	14	23	0.80	− 2.16	0.48	0	5	21	0	9	e.	Normal and Agr. Inst.
Hot Springs	Bath	2,195	19	64.7	+ 2.1	82	7†	39	14	30	3.10	− 0.54	1.10	0	12	16	10	4	.....	F. M. Terry.
Ivor	Southampton	87	2	73.8	.....	91	3†	48	14	35	1.18	.....	0.85	0	3	.....	.....	.....	.....	N. & W. Ry. Expt. Farm.
Lassiter	Goochland	100	2	.....	.....	.....	.....	.....	.....	.....	1.57	.....	0.75	0	4	22	6	2	.....	T. J. Davis.
Lexington	Rockbridge	1,060	34	70.1	+ 3.5	87	28	44	14	33	1.78	− 2.02	0.58	0	6	24	3	3	.....	Virginia Military Institute.
Lynchburg	Campbell	685	40	72.5	+ 4.1	90	7	49	14	29	0.85	− 2.78	0.35	0	8	12	16	2	e.	U. S. Weather Bureau.
Newcastle	Craig	1,300	2	.....	.....	.....	.....	.....	.....	.....	0.69	.....	0.33	0	4	.....	.....	.....	.....	Miss J. L. Martin.
Newport News	Warwick	55	8	75.5	.....	90	26	52	14	24	0.65	.....	0.23	0	7	12	12	6	se.	C. W. Ashby.
Norfolk	Norfolk	91	41	74.4	+ 2.7	88	6	58	14	23	0.63	− 3.43	0.34	0	6	10	12	8	ne.	U. S. Weather Bureau.
Petersburg	Dinwiddie	60	24	74.3	+ 3.0	92	3	46	14	27	1.20	− 1.45	0.40	0	3	26	0	4	n.	Central State Hospital.
Randolph	Charlotte	334	7	.....	.....	.....	.....	.....	.....	.....	0.88	.....	0.68	0	2	.....	.....	.....	.....	W. J. Abbitt.
Richmond	Henrico	144	32	72.5	+ 1.7	91	3	48	14	25	1.85	− 1.58	0.70	0	6	6	15	9	ne.	U. S. Weather Bureau.
Rockymount	Franklin	1,150	17	71.0	+ 0.8	89	25	49	14†	32	2.38	− 1.06	1.08	0	7	.....	.....	.....	.....	G. W. B. Hale.
Saxe	Charlotte	350	8	75.6	.....	92	16	48	14	27	1.22	.....	0.35	0	4	19	0	11	s.	State Experiment Farm.
Spottsville (near)	Surry	15	23	72.8	+ 4.2	90	6†	45	14	31	2.76	− 0.52	0.62	0	6	13	8	9	sw.	B. W. Jones.
Williamsburg	James City	70	20	76.4	+ 7.7	90	7	55	14	25	1.27	− 2.51	0.50	0	3	17	7	6	sw.	Eastern State Hospital.
North Carolina.																				
Albemarle	Stanly	700	....	76.8	.....	94	16†	57	18	32	3.77	.....	1.27	0	6	18	8	4	ne.	W. J. Harris.
Beaufort	Carteret	10	10	78.4	+ 2.5	90	7	62	14	16	3.65	− 0.22	0.98	0	13	18	7	5	sw.	H. D. Aller.
Belhaven	Beaufort	4	2	.....	.....	.....	.....	51	14	....	4.26	.....	1.97	0	6	17	12	1	s.	A. L. Bell.
Caroleen	Rutherford	806	11	76.6	+ 4.6	93	16	61	14	29	4.80	+ 0.78	1.67	0	8	10	17	3	sw.	S. B. Tanner.
Chalybeate Springs	Harnett	500	5	76.8[a]	.....	95	16	50	14	37	1.51	.....	0.52	0	7	24	6	0	sw.	J. A. Smith.
Chapel Hill	Orange	500	53	75.5[a]	+ 4.0	93	28	50	14	28	.....	.....	.....	.....	.....	.....	.....	.....	sw.	Prof. A. H. Patterson.
Charlotte	Mecklenburg	773	35	76.4	+ 5.7	92	28	59	14	24	4.76	+ 1.54	2.17	0	8	7	16	7	ne.	U. S. Weather Bureau.
Chimney Rock	Rutherford	1,150	1	74.7	.....	90	7†	56	15	32	1.98	.....	0.40	0	9	17	12	1	w.	J. M. Flack.
Durham (near)	Durham	406	2	.....	.....	.....	.....	.....	.....	.....	0.73	.....	0.47	0	3	.....	.....	.....	.....	J. C. Michie.
Eagletown	Northampton	66	6	75.2	.....	91	16	49	14	26	2.04	.....	0.86	0	7	15	15	0	sw.	J. T. Elliott.
Edenton	Chowan	30	17	75.7	+ 3.6	90	10†	53	19†	25	4.85	+ 1.80	2.00	0	6	12	8	10	ne.	E. R. Conger.
Elizabethtown	Bladen	60	....	.....	.....	.....	.....	.....	.....	.....	5.74	.....	1.50	0	6	.....	.....	.....	.....	J. W. Hall, jr.
Enfield (near)	Halifax	90	....	.....	.....	.....	.....	.....	.....	.....	1.56	.....	0.97	0	5	.....	.....	.....	.....	T. S. Inborden.
Fayetteville	Cumberland	107	24	78.6	+ 6.6	97	16	56	14	32	1.98	− 2.32	1.08	0	10	13	6	11	.....	Frank Glover.
Goldsboro	Wayne	102	41	76.3	+ 4.5	90	29	56	14	25	2.65	− 1.93	1.35	0	10	.....	.....	.....	w.	Mrs. N. B. Taylor.
Graham	Alamance	656	9	.....	.....	.....	.....	.....	.....	.....	4.24	.....	1.79	0	10	.....	.....	.....	.....	Dr. W. R. Goley.
Greensboro	Guilford	843	30	73.4	+ 2.4	90	16	52	14	27	3.88	+ 0.91	1.00	0	7	.....	.....	.....	sw.	A. H. Horry.
Greenville	Pitt	75	18	.....	.....	.....	.....	.....	.....	.....	4.05	− 0.92	1.21	0	13	.....	.....	.....	.....	R. M. Hearne.
Hatteras	Dare	11	37	76.0	+ 1.3	86	10	62	15	17	5.08	− 0.25	1.35	0	12	16	11	3	sw.	U. S. Weather Bureau.
Henderson	Vance	508	18	74.3	+ 2.2	87	7†	49	14	23	1.05	− 2.48	0.45	0	5	12	17	1	ne.	Enoch Powell.
Kings Mountain	Gaston	952	....	77.8	.....	98	16	60	14	31	1.59	.....	0.60	0	9	1	25	4	w.	Rev. J. C. Strang.
Kinston	Lenoir	46	13	78.1	+ 4.9	97	16	52	14	36	3.77	+ 1.25	1.52	0	12	17	11	2	ne.	H. C. V. Peebles.
Lenoir	Caldwell	1,186	38	73.9	+ 7.2	92	16	56	30	33	4.93	+ 0.35	3.12	0	9	23	3	4	s.	G. M. Goforth.
Lincolnton	Lincoln	994	6	74.7	.....	94	28	59	14†	32	4.41	.....	2.22	0	6	0	30	0	sw.	S. P. Houser.
Louisburg	Franklin	375	20	75.2	+ 4.0	91	16	49	14	27	2.53	− 0.77	1.20	0	3	21	9	0	sw.	T. B. Wilder.
Lumberton	Robeson	102	28	79.0	+ 6.1	97	16†	58	14†	35	4.85	+ 0.57	3.10	0	8	.....	.....	.....	ne.	B. M. Davis.
Marion	McDowell	1,425	19	73.6	+ 4.4	92	16	55	15	31	0.91	− 3.97	0.22	0	13	11	15	4	w.	Sergt. Thomas McGuire.
Middletown	Hyde	4	....	75.2[b]	.....	89	8†	53	14†	26	5.75	.....	1.50	0	12	.....	.....	.....	s.	J. S. Mann.
Moncure	Chatham	145	17	76.1	+ 4.2	95	16†	51	14	36	1.96	− 2.03	0.98	0	7	21	3	6	ne.	B. J. Utley.
Monroe	Union	586	17	76.4	+ 5.7	92	10†	57	18	31	3.69	− 0.24	1.00	0	7	16	9	5	ne.	T. A. Ashcraft.
Morganton	Burke	1,135	24	74.2	+ 4.7	92	16	58	14	29	3.55	− 0.00	2.57	0	10	21	4	5	se.	J. B. P. Massey.
Mount Airy	Surry	1,048	23	73.8	+ 5.6	92	10†	54	14	34	3.47	− 0.30	2.10	0	8	24	3	3	ne.	Prof. A. H. Merritt.
Mount Holly	Gaston	616	14	.....	.....	.....	.....	.....	.....	.....	4.88	+ 0.98	1.96	0	6	.....	.....	.....	.....	J. W. Holland.
Nashville	Nash	190	7	77.0	.....	95	16	47	14	34	1.14	.....	0.71	0	8	8	15	7	e.	J. B. Boddie.
Neuse	Wake	266	....	.....	.....	.....	.....	.....	.....	.....	0.62	.....	0.20	0	4	.....	.....	.....	.....	Gaston H. Mooneyham.
Newbern	Craven	12	29	75.7	+ 2.1	93	28	52	14	33	6.85	+ 1.89	1.98	0	13	.....	.....	.....	ne.	J. B. Hill.
Parkersburg	Sampson	121	....	78.1[a]	.....	97	16	55	19	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. J. Conway.
Pinehurst‡	Moore	650	7	76.8	.....	93	16	55	14	29	3.06	.....	1.11	0	8	12	13	5	se.	General Office.
Raleigh	Wake	390	40	76.1	+ 5.5	92	7	52	14	27	1.74	− 1.60	0.60	0	8	7	18	5	ne.	U. S. Weather Bureau.
Ramseur	Randolph	442	4	77.0	.....	98	11	50	14	40	1.35	.....	0.38	0	7	21	9	0	ne.	A. H. York.
Randleman	do	810	6	.....	.....	.....	.....	.....	.....	.....	2.05	.....	0.70	0	6	.....	.....	.....	.....	J. R. Walton.
Reidsville	Rockingham	828	12	75.0	+ 4.4	95	7†	49	14†	39	2.35	− 0.40	1.40	0	7	11	7	12	sw.	E. M. Redd.
Rock House	Macon	3,100	19	69.0	+ 2.7	82	12	52	14†	27	4.49	− 2.16	1.48	0	17	10	15	5	e.	B. C. Hawkins.
Rocky Mount	Nash	105	....	.....	.....	.....	.....	.....	.....	.....	0.83	.....	0.60	0	3	.....	.....	.....	.....	G. P. Womble.
Roxboro	Person	600	12	73.4	+ 3.1	92	6	48	13	34	0.85	− 2.93	0.51	0	4	14	6	10	s.	N. Lunsford.
Salisbury	Rowan	760	27	76.4	+ 4.7	94	16†	57	14†	32	2.72	− 0.44	0.89	0	8	14	8	8	w.	Miss Thelma Wilkinson.
Saxon	Stokes	900	19	72.8	+ 3.4	92	16	53	18	33	1.21	− 2.07	0.56	0	8	14	13	3	sw.	R. P. McAnally.
Scotland Neck	Halifax	80	7	73.2	.....	88	7†	45	14	29	2.74	.....	1.12	0	7	14	7	9	s.	J. Y. Savage.
Selma	Johnston	225	21	77.9	+ 5.6	93	7†	52	14	33	2.40	− 0.98	0.80	0	5	.....	.....	.....	.....	Dr. R. J. Noble.
Settle	Iredell	700	15	74.8	+ 3.8	91	16†	54	18	30	2.96	− 0.16	1.22	0	7	13	12	5	sw.	C. H. Smith.
Sloan	Duplin	50	18	77.8	+ 4.0	95	7	55	18	32	4.55	+ 1.06	1.60	0	9	16	6	8	s.	D. M. Sholar.
Smithfield	Johnston	151	....	.....	.....	.....	.....	.....	.....	.....	4.51	.....	2.09	0	8	.....	.....	.....	.....	Edwin S. Sanders.
Snow Hill	Greene	80	6	76.9	.....	94	28	51	14	31	5.80	.....	1.51	0	11	4	23	3	s.	L. J. H. Mewborn.
Southern Pines	Moore	519	21	77.0[a]	+ 3.1	94	28	55	14	29	3.40	+ 0.52	0.90	0	9	.....	.....	.....	.....	Mrs. P. H. Beck.
Southport	Brunswick	18	56	78.4	+ 1.5	92	12	62	14	22	7.46	+ 2.89	2.70	0	8	13	12	5	sw.	Mrs. C. E. Taylor.
Statesville	Iredell	950	23	75.3	+ 6.1	94	28	55	14	33	1.86	− 2.34	0.51	0	5	14	14	2	sw.	D. Matt Thompson.
Tarboro	Edgecombe	50	26	77.0	+ 4.1	95	7	50	14	32	4.13	+ 0.96	1.37	0	9	18	5	7	.....	E. V. Zoeller.
Weldon	Halifax	81	39	73.4	+ 2.0	88	7†	49	14	27	3.62	− 0.12	1.07	0	9	.....	.....	.....	n.	H. S. S. Cooper.
Whiteville	Columbus	59	6	79.6	.....	94	7†	56	18	30	2.00	.....	0.60	0	5	22	5	3	se.	J. R. Williamson.
Willard	Pender	51	3	76.6	.....	94	6†	56	14†	30	7.47	.....	1.34	0	10	20	8	2	s.	J. H. Jefferies.
Wilmington	New Hanover	52	40	77.6	+ 4.5	92	16	58	14	21	5.79	+ 0.52	2.35	0	12	7	17	6	sw.	U. S. Weather Bureau.

TABLE 1.—*Climatological data for September, 1911. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
South Carolina.																				
Aiken	Aiken	565	27	79.2	+ 4.6	94	9†	67	13	26	2.09	− 1.90	0.90	0	4	16	14	0	w.	Dr. H. T. Hall.
Allendale	Barnwell	186	23	79.4	+ 3.5	96	11†	64	13	30	4.16	+ 0.51	1.10	0	11	11	11	8	.....	A. R. Hiers.
Anderson	Anderson	764	10	79.2	+ 6.3	96	26†	64	14	28	2.44	− 1.18	1.62	0	7	20	0	10	w.	H. H. Russell.
Batesburg	Lexington	656	23	78.7	+ 4.9	95	8	64	15	28	4.43	+ 0.77	1.15	0	10	17	11	2	w.	E. J. Hite.
Beaufort	Beaufort	20	25	79.8	+ 2.5	93	13	66	19	19	4.47	− 0.48	1.83	0	9	12	18	0	se.	Miss Lillian H. Rice.
Blackville	Barnwell	296	22	81.6	+ 6.1	98	28	65	14	29	6.52	+ 2.48	1.90	0	13	9	9	12	sw.	Miss M. E. Lange.
Blairs	Fairfield	293	6	.....	.....	.....	.....	.....	.....	.....	2.75	.....	1.36	0	10	14	8	8	s.	John R. Ragsdale.
Bowman	Orangeburg	160	10	78.2	+ 3.2	95	11†	61	18	32	5.99	+ 2.94	1.40	0	11	18	11	1	w.	B. O. Evans.
Calhoun Falls	Abbeville	508	18	.....	.....	.....	.....	.....	.....	.....	2.08	− 1.99	0.56	0	7	19	0	11	e.	L. M. Parker.
Camden	Kershaw	222	45	80.8	.....	96	16	64	14	26	2.26	− 1.54	0.96	0	7	14	8	8	ne.	W. C. Brown.
Catawba	York	562	6	.....	.....	.....	.....	.....	.....	.....	2.86	.....	1.85	0	8	16	5	9	ne.	Jas. C. Faris.
Chappells	Newberry	402	6	.....	.....	.....	.....	.....	.....	.....	4.42	.....	2.28	0	6	13	0	17	sw.	W. R. Zimmerman.
Charleston	Charleston	48	41	80.2	+ 4.0	95	11	69	19	19	5.24	− 0.22	3.28	0	14	15	13	2	s.	U. S. Weather Bureau.
Cheraw	Chesterfield	144	23	77.6	+ 4.4	92	12†	62	14	25	4.53	+ 0.96	1.44	0	13	13	8	9	ne.	J. H. Powe.
Clemson College	Oconee	850	20	75.4	+ 3.0	88	28	63	19	21	3.37	− 0.41	1.24	0	5	18	8	4	s.	Prof. John N. Hook.
Columbia	Richland	351	25	79.1	+ 5.4	94	16	64	14	23	6.10	+ 2.65	2.19	0	8	5	21	4	sw.	U. S. Weather Bureau.
Conway	Horry	25	19	79.6	+ 5.1	96	16	59	19	31	5.70	+ 1.45	1.52	0	10	15	0	15	sw.	P. C. Quattlebaum.
Darlington	Darlington	175	16	78.4	.....	97	16	59	18†	33	2.75	− 0.98	0.83	0	9	.....	.....	.....	.....	D. C. McCall.
Dillon	Dillon	100	7	78.6	+ 4.0	97	16	58	19	29	4.11	+ 0.50	1.78	0	15	.....	.....	.....	.....	A. E. Rowell.
Effingham	Florence	106	19	.....	.....	.....	.....	.....	.....	.....	1.80	− 1.77	0.80	0	4	21	0	9	sw.	H. B. McCall.
Ferguson	Berkeley	51	3	79.2	+ 5.7	96	16	61	19	29	4.10	+ 0.39	2.40	0	12	22	4	4	se.	Dr. J. R. Des Portes.
Florence	Florence	136	23	79.6	+ 4.8	97	9	62	14†	32	4.08	− 0.16	1.06	0	9	13	8	9	sw.	H. K. Gilbert.
Georgetown	Georgetown	12	18	80.2	+ 4.6	96	22	65	14†	26	3.60	− 0.08	0.95	0	9	6	23	1	e.	A. P. Hazard.
Greenville	Greenville	989	19	76.8	+ 6.5	96	28	60	14	30	2.74	− 1.23	0.96	0	5	21	4	5	e.	Spartan Goodlette.
Greenwood	Greenwood	671	23	79.2	+ 6.0	97	28	64	15	30	0.74	− 3.03	0.49	0	2	19	0	11	w.	M. M. Calhoun.
Heath Springs	Lancaster	568	10	76.7	.....	95	28	50	14	28	2.32	.....	0.70	0	6	17	7	6	ne.	J. A. Weaner.
Jacksonboro	Colleton	13	3	78.8	.....	92	13†	64	19	24	7.16	.....	2.70	0	8	11	9	10	sw.	W. E. Haskell, jr.
Kingstree	Williamsburg	54	23	79.2	+ 4.2	96	23	62	18†	32	2.78	− 0.96	0.80	0	10	12	3	15	nw.	A. O. Matthews.
Liberty	Pickens	900	17	77.0	+ 4.3	97	30	61	19	29	2.53	− 2.11	0.80	0	11	18	8	4	s.	John T. Bogga.
Little Mountain	Newberry	711	18	78.0	+ 2.9	95	18†	63	7†	30	3.06	− 0.84	1.05	0	8	22	6	2	w.	J. M. Sease, M. D.
Meriwether	Edgefield	.....	2	79.8	.....	95	28†	65	6†	29	1.85	.....	0.85	0	4	9	3	18	.....	Wm. S. Middleton.
Newberry	Newberry	502	7	79.2	+ 5.3	96	11†	65	13†	28	3.83	− 0.27	1.30	0	10	5	16	9	w.	W. G. Peterson.
Pelzer	Anderson	873	6	.....	.....	.....	.....	.....	.....	.....	1.66	.....	0.82	0	3	18	0	12	w.	John M. Ward.
St. George	Dorchester	109	23	80.2	+ 5.2	95	11	66	19	24	3.80	− 0.28	0.60	0	12	24	0	6	.....	G. F. Lewis.
St. Matthews	Calhoun	209	23	78.8	+ 4.3	92	16	68	14†	24	4.58	+ 1.09	1.54	0	9	18	0	12	.....	J. S. Wannamaker.
Saluda	Saluda	530	9	80.0	.....	98	1†	63	13	34	1.94	.....	0.86	0	5	21	9	0	s.	Mrs. F. V. J. Maxwell.
Santuc	Union	512	16	80.0	+ 7.2	100	9†	61	23	33	3.83	+ 0.46	2.12	0	11	6	20	4	ne.	E. W. Jeter.
Smith Mills	Williamsburg	62	16	.....	.....	.....	.....	.....	.....	.....	1.16	− 3.08	0.42	0	8	17	0	13	e.	W. G. Walker.
Society Hill	Darlington	192	20	76.8	+ 3.7	91	16†	60	13	23	2.14	− 2.05	0.96	0	7	16	5	9	sw.	Major J. J. Lucas.
Spartanburg	Spartanburg	875	20	77.4	+ 5.1	94	16†	62	14†	29	2.48	− 1.39	1.70	0	7	13	1	16	.....	F. P. Robinson.
Summerville	Dorchester	75	14	78.7	+ 3.9	93	11†	61	19	26	4.21	+ 0.43	2.16	0	11	0	27	3	sw.	Miss E. H. Gadsden.
Trenton	Edgefield	620	18	79.5	+ 4.3	94	11†	64	6	26	5.71	+ 2.52	1.47	0	10	9	20	1	s.	C. A. Long.
Walterboro	Colleton	69	7	81.6	.....	99	11†	61	19	33	3.60	.....	1.82	0	9	15	11	4	.....	J. A. Westerberg.
Winnsboro	Fairfield	545	21	77.7	+ 5.1	90	8†	62	13†	27	2.90	− 0.56	2.00	0	3	18	11	1	se.	J. W. Seigler.
Winthrop College	York	690	12	77.8	+ 5.1	93	16†	61	14	25	3.73	+ 0.73	1.85	0	6	19	6	5	.....	E. R. Rivers.
Yemassee	Hampton	23	16	78.8	+ 3.3	94	11†	64	19	26	7.42	+ 3.34	2.35	0	13	25	1	4	.....	J. G. Hutson.
Georgia.																				
Abbeville	Wilcox	.....	8	.....	.....	.....	.....	.....	.....	.....	3.11	.....	1.14	0	10	17	1	12	w.	W. H. Calhoun.
Adiarsville	Bartow	772	19	78.0[b]	+ 5.5	93[b]	10†	60[a]	6	28	1.02	− 2.23	0.62	0	4	19[a]	8[a]	2[a]	.....	Dr. J. P. Bowdoin.
Albany	Dougherty	230	23	82.1	+ 4.3	100	14	68	13†	29	4.46	+ 1.35	1.67	0	9	20	5	5	sw.	George C. Brosnan.
Allapaha	Berrien	293	22	.....	.....	98	13	.....	.....	.....	4.20	+ 0.27	1.60	0	5	4	21	5	sw.	James T. Austin.
Americus	Sumter	362	28	79.5	+ 3.0	94	13	65	19	28	0.99	− 2.25	0.47	0	6	20	7	3	nw.	F. P. Harrold.
Athens	Clarke	694	34	78.7	+ 6.7	96	16†	62	13	33	0.57	− 2.64	0.44	0	7	19	0	11	e.	C. D. Cox.
Atlanta	Fulton	1,218	46	78.3	+ 6.2	91	28	64	1	25	1.41	− 2.00	0.54	0	10	11	11	8	ne.	U. S. Weather Bureau.
Augusta	Richmond	180	45	80.4	+ 5.5	94	16	69	13	23	1.50	− 1.97	0.61	0	9	7	19	4	ne.	Do.
Bainbridge	Decatur	110	19	83.0	+ 5.6	100	13†	67	19	29	4.85	+ 0.94	1.18	0	13	20	2	8	ne.	Mrs. C. O. Wimberley.
Barnesville	Pike	875	2	81.4	.....	99	2†	66	1	30	0.99	.....	0.32	0	8	5	22	3	w.	C. W. Mobley.
Butler	Taylor	650	10	.....	.....	.....	.....	.....	.....	.....	4.20	+ 0.38	1.37	0	6	18	5	7	sw.	Mrs. Mamie F. Wallace.
Camak	Warren	613	19	80.5	+ 6.1	97	16†	66	14†	30	5.54	+ 1.32	2.15	0	7	8	8	14	.....	J. A. Chapman.
Canton	Cherokee	894	20	.....	.....	.....	.....	.....	.....	.....	1.83	− 0.51	0.77	0	5	14	4	12	.....	G. W. Evans.
Carlton	Madison	557	12	.....	.....	.....	.....	.....	.....	.....	2.18	− 1.39	1.67	0	3	20	0	10	w.	M. C. Power.
Clayton	Rabun	2,100	17	73.0	+ 4.5	88	28	59	13†	27	7.17	+ 2.16	4.50	0	7	18	9	3	w.	A. J. Duncan.
Columbus	Muscogee	262	23	82.3[a]	+ 5.3	98[a]	12†	63[a]	20	33	2.61	− 0.67	0.77	0	7	21[a]	1[a]	7[a]	e.	A. J. Land.
Covington	Newton	800	19	.....	.....	.....	.....	.....	.....	.....	2.55	− 0.13	1.00	0	6	17	6	7	s.	Mrs. Sarah E. Cruse.
Cuthbert	Randolph	446	11	81.2	+ 3.5	98	13	65	12	29	1.72	.....	0.90	0	2	15	15	0	.....	Prof. W. McMichael.
Dahlonega	Lumpkin	1,519	21	75.0	+ 5.1	89	28	61	13	26	3.22	− 1.28	1.50	0	7	5	25	0	se.	Prof. B. P. Gaillard.
Diamond	Gilmer	2,020	21	74.2[a]	+ 5.6	90[a]	10	59[a]	8†	30	2.89	− 1.85	.....	0	8	12	15	3	.....	R. A. Kimzey.
Dublin	Laurens	452	17	.....	.....	.....	.....	.....	.....	.....	6.21	+ 3.40	1.80	0	9	17	1	12	w.	Mrs. M. E. Martin.
Eastman	Dodge	361	19	82.3	+ 5.4	98	13	69	19†	28	7.64	+ 4.13	1.69	0	9	12	5	13	w.	Miss Annie Bohannon.
Eatonton	Putnam	.....	8	.....	.....	.....	.....	.....	.....	.....	2.99	.....	0.85	0	10	.....	.....	.....	.....	Prof. W. C. Wright.
Elberton	Elbert	710	20	78.6	+ 4.3	95	19	62	21	30	2.99	− 0.18	0.98	0	7	21	7	2	e.	H. A. Roebuck.
Experiment	Spalding	946	11	79.0	+ 5.1	93	30	63	2	23	2.38	− 0.48	0.75	0	4	9	19	2	.....	Martin V. Calvin.
Fort Gaines	Clay	166	24	80.6	+ 4.2	100	13	65	8	30	1.50	− 1.59	0.70	0	4	23	2	5	se.	Miss Eva T. Graham.
Gainesville	Hall	1,254	34	76.0	+ 5.0	94	28	60	13	31	3.17	− 0.79	1.90	0	5	12	9	9	e.	W. C. Walker.
Glennville	Tatnall	.....	6	79.8	.....	93	13†	66	19	24	8.59	.....	3.23	0	10	19	11	0	sw.	William C. Barnard.
Gore	Chattooga	.....	12	78.4	+ 6.1	96	28	60	1	34	3.73	+ 0.23	2.00	0	7	18	12	0	s.	H. M. Ponder.
Greensboro	Greene	598	9	79.6	.....	96	21†	62	14	31	0.79	.....	0.52	0	4	18	1	11	w.	R. L. Caldwell.
Griffin	Spalding	975	22	77.8	+ 4.0	91	11†	66	1	24	3.08	+ 0.03	0.80	0	8	13	7	10	nw.	V. P. Enloe.
Harrison	Washington	245	12	79.4	+ 4.0	95	13†	63	13	32	4.92	+ 2.15	1.55	0	10	22	6	2	n.	A. W. J. Wood.
Hartwell	Hart	838	2	78.8	.....	94	10†	64	14	26	5.19	.....	1.70	0	6	10	20	0	e.	W. B. McMullan.
Hawkinsville	Pulaski	235	16	80.6[a]	+ 4.8	96[a]	2†	64[a]	12†	32	3.58	+ 0.42	1.42	0	5	15	8	7	.....	R. H. Wood.
Lisbon	Lincoln	.....	4	80.0	.....	96	11†	62	13	32	3.28	.....	0.70	0	7	15	9	6	.....	B. J. DuBose.
Lost Mountain	Cobb	.....	11	.....	.....	93	15†	63	13†	28	1.95	− 1.07	1.14	0	6	.....	.....	.....	w.	A. N. Mayes.
Louisville	Jefferson	259	19	79.5	+ 3.9	94	30	68	8†	24	2.55	− 1.06	0.70	0	8	11	19	0	.....	J. C. Little.
Lumber City	Telfair	.....	2	.....	.....	.....	.....	.....	.....	.....	3.67	.....	1.87	0	12	11	9	10	e.	Walter A. Hilton.
Lumpkin	Stewart	560	17	83.7	+ 6.7	105	30	67	25	36	0.65	− 2.48	0.36	0	2	.....	.....	.....	e.	A. W. Latimer.
Macon	Bibb	370	33	80.1	+ 4.5	96	13	65	13	31	3.81	+ 0.89	2.46	0	11	10	15	5	n.	U. S. Weather Bureau.
Marshallville	Macon	500	19	80.0	+ 3.2	97	13†	62	18	31	2.81	− 0.17	0.73	0	7	6	18	6	w.	E. C. Bryan.
Milledgeville	Baldwin	276	23	79.8	+ 5.0	95	12†	64	13	29	2.69	− 0.97	0.60	0	9	18	2	10	s.	Prof. O. M. Cone.
Millen	Jenkins	158	24	81.6	+ 5.6	97	13†	66	13†	31	2.21	− 1.43	0.72	0	8	16	1	13	se.	M. G. McComb.
Mineral Bluff	Fannin	.....	.....	74.2	.....	91	2†	58	8†	33	3.32	.....	1.36	0	11	10	20	0	n.	J. M. Clement.
Montezuma	Macon	292	6	.....	.....	.....	.....	.....	.....	.....	1.11	.....	0.56	0	5	20	3	7	ne.	J. C. Collins.
Monticello	Jasper	800	16	80.0	+ 4.9	96	17†	64	13	31	1.58	− 1.57	0.50	0	7	19	0	11	.....	Miss Maude Penn.
Morgan	Calhoun	337	18	.....	.....	.....	.....	.....	.....	.....	2.62	− 0.63	0.64	0	7	20	10	0	sw.	W. J. Ragan.
Newnan	Coweta	959	22	79.5	+ 6.0	96	13†	63	20	30	1.43	− 1.83	0.86	0	4	22	1	7	.....	Mrs. Ida J. Milner.

TABLE 1.—*Climatological data for September, 1911. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Georgia—Continued.																				
Norcross	Gwinnett	1,078									0.28		0.12	0	6	20	2	8		W. O. Medlock.
Point Peter	Oglethorpe	1,000	22	78.6	+ 6.1	97	28†	64	4†	30	2.58	− 1.10	2.10	0	2	10	20	0		C. M. Witcher.
Poulan	Worth	365	20	81.4	+ 4.9	99	14	65	19†	30	3.71	+ 0.30	1.33	0	10	23	6	1		Dr. J. F. Wilson.
Putnam	Marion		11	80.5[a]	+ 4.1	100[a]	13	63[a]	13	37	3.60	− 0.23	1.70	0	4	9	17	4	s.	Mrs. J. M. Collum.
Quitman	Brooks	173	25	80.8	+ 3.2	95	17	66	19	25	2.81	− 1.42	1.86	0	4	28	0	2	nw.	A. B. Jones.
Ramhurst	Murray	1,363	18	76.2	+ 3.6	90	13†	62	14	27	1.52	− 1.70	0.33	0	9	19	5	6	sw.	D. E. Humphreys.
Resaca	Gordon	657	17								0.82	− 1.92	0.45	0	3	26	2	2	sw.	D. A. Norton.
Rome	Floyd	576	55	79.8	+ 6.7	98	28	63	1	32	1.67	− 0.86	0.49	0	5	21	4	5	se.	W. M. Towers.
St. George	Charlton		4	80.8		96	13	65	19†	25	3.68		1.60	0	7	21	9	0	sw.	A. N. Lund.
St. Marys	Camden	20	19	80.2	+ 2.7	99	30	63	19	27	2.09	− 6.09	1.40	0	8	5	23	2	e.	David C. Sterling.
Savannah	Chatham	65	61	80.1	+ 3.7	95	13	69	19	23	4.00	− 1.41	1.06	0	13	6	19	5	sw.	U. S. Weather Bureau.
Statesboro	Bulloch	253	11	81.2	+ 4.3	97	13	66	19	29	3.57	+ 0.45	1.06	0	8	11	19	0		W. C. Cromley.
Talbottom	Talbot	750	18	82.3[e]	+ 7.4	98[e]	1†	66[e]	19	31	1.68	− 1.40	1.62	0	2	16[e]	5[e]	6[e]		Dr. E. L. Bardwell.
Tallapoosa	Haralson	1,150	12	78.6	+ 5.9	95	13†	62	1	30	1.16	− 1.82	0.27	0	8	16	12	2	nw.	Elmer C. Bishop.
Thomasville	Thomas	273	29	81.4	+ 3.8	97	13	67	19	26	2.52	− 2.41	0.76	0	11	14	12	4	e.	U. S. Weather Bureau.
Tifton	Tift	370		81.1[d]		98[d]	13†	67[d]	22	30	4.70		2.94	0	6					K. C. Moore.
Toccoa	Stephens	1,050	26	75.9	+ 4.7	91	10	63	15	24	3.38	− 1.06	1.53	0	9	17	8	5	e.	Mrs. Alice Starke.
Valdosta	Lowndes	210	6	83.4		104	14	66	19†	32	2.35		1.40	0	4	20	0	10	nw.	Miss Annie Twitty.
Washington	Wilkes	630	23	79.6	+ 5.5	95	28†	66	13†	27	4.46	+ 0.87	2.05	0	5	15	4	11	ne.	Miss Ella B. Smith.
Waycross	Ware	131	22	82.0	+ 4.7	100	13	66	29	30	4.27	− 0.03	1.87	0	9	27	0	3	s.	Thomas Sasser.
Waynesboro	Burke	86	20	79.6	+ 5.6	96	30	64	13	30	4.70	+ 1.64	1.65	0	8	9	13	8	w.	Mrs. H. W. Blount.
West Point	Troup	620	22	79.8	+ 4.5	96	13†	65	1	29	2.24	− 0.80	0.52	0	8	20	2	8	w.	E. N. Dunn.
Woodbury	Meriwether	641	10								1.43	− 1.72	0.45	0	8	20	6	4		E. T. Riggins.
Florida.																				
Apalachicola§	Franklin	24	7	81.8		94	13†	73	18†	18	3.25		2.00	0	7	5	25	0	s.	G. H. Whiteside.
Arcadia	De Soto	61	10	80.0	− 0.6	96	13	67	16	29	2.44	− 4.39	0.50	0	14	13	17	0	e.	C. S. Bushnell.
Avon Park	....do	150	13	80.8	+ 0.7	96	8	62	15	27	2.06	− 3.95	0.82	0	10	17	11	2	ne.	O. R. Thacher.
Bartow	Polk	115	23	80.8	+ 1.0	96	13†	66	17†	29	3.56	− 4.72	1.50	0	11	8	5	17	se.	Wm. Hood.
Blountstown	Calhoun		2	81.6		98	13	67	23†	28	1.66		0.58	0	4				sw.	C. L. Hobbs.
Bradentown	Manatee	10	27	79.4	− 0.6	91	14	67	16†	21	7.67	+ 0.23	1.87	0	13	11	19	0		H. H. TenBroeck.
Brooksville	Hernando	126	18	81.6	+ 2.2	96	8	66	19	27	10.31	+ 3.50	3.36	0	9	15	14	1	nw.	C. C. Peck.
Carrabelle	Franklin	10	12	81.6	+ 3.5	97	13	69	14†	27	2.18	− 4.50	0.80	0	6					J. J. Blomquist.
Cedar Key	Levy	10	22	82.9	+ 3.5	93	14†	70	17	20	2.25	− 2.92	0.56	0	11				nw.	J. B. Lutterloh.
Clermont	Lake	105	18	83.0	+ 2.5	99	14†	67	19	28	3.11	− 3.85	1.25	0	6	11	19	0	ne.	S. S. Fesler.
De Funiak Springs	Walton	193	13	82.2[j]	+ 4.8	99[j]	17	70[j]	2†	27	5.00	− 1.01	2.45	0	5				s.	R. W. Storrs.
De Land	Volusia	27	14	78.8	+ 0.3	93	13	61	19	25	3.78		1.67	0	9	18	11	1	s.	O. B. Webster.
Eustis	Lake	56	20	82.6[a]	+ 3.0	100[a]	13†	65[a]	19	28	1.97	− 4.81	0.59	0	6				e.	C. T. Smith.
Federal Point	Putnam	5	19	80.4	+ 2.3	97	13	64	19	27	2.88	− 5.47	0.62	0	11	21	8	1	se.	E. S. Hubbard.
Fenholloway	Taylor	75	4	82.4[a]		99[a]	14	66[a]	19	28	5.83		2.70	0					sw.	Joseph Wigglesworth.
Fernandina	Nassau	10	18	81.2	+ 3.2	95	13†	70	20	22	0.71	− 8.35	0.30	0	7	18	12	0	se.	W. B. C. Duryee.
Fort Meade	Polk	125	22	82.0	+ 2.5	98	7†	63	16	32	3.16	− 5.53	1.02	0	9	22	7	1	ne.	G. L. Brodrick.
Fort Myers	Lee	12	39	80.2	+ 0.3	93	14	68	17†	21	5.87	− 1.91	2.72	0	13	17	12	1	e.	Miss M. M. Gardner.
Fort Pierce	St. Lucie	6	10	80.6	+ 1.0	96	12	68	18†	23	1.80	− 5.62	0.60	0	6	24	3	3	ne.	T. C. Nicholson.
Gainesville	Alachua	176	17	80.8	+ 2.2	95	13†	66	20	26	5.87	+ 0.34	2.35	0	10				ne.	John Schnabel.
Grasmere§	Orange	175	13	80.8	+ 1.6	96	13†	61	3	31	6.77		1.98	0	13	27	2	1		J. B. Escott.
Hilliard	Nassau	69	2	80.6		98	13	64	18	29	2.85		1.75	0	5	20	5	5		B. A. Tibbitts.
Homestead	Dade	5	1	80.4		96	18	64	17	31	8.66		2.08	0	21	14	12	4	e.	W. J. Krome.
Hypoluxo	Palm Beach	9	15	82.6	+ 2.0	97	12	65	20	26	5.77	− 3.61	1.52	0	15	16	11	3	e.	G. A. Angevine.
Inverness	Citrus	43	11	80.6	+ 1.8	92	8†	66	19	24	3.15	− 2.51	0.80	0	12	2	25	3	ne.	W. H. Miller.
Jacksonville	Duval	101	40	81.5	+ 4.2	96	13	68	19	22	0.90	− 7.13	0.53	0	7	17	12	1	e.	U. S. Weather Bureau.
Jasper	Hamilton	152	10	81.3	+ 2.9	96	13†	65	19	28	3.48	− 1.07	1.34	0	9	18	11	1	w.	Mrs. W. C. Caldwell.
Johnstown	Bradford	125	11	81.6	+ 3.0	98	13	64	19	27	2.92	− 2.60	0.88	0	11	18	12	0		A. M. C. Brasch.
Key West	Monroe	14	40	82.5	0	90	13	72	10	15	2.05	− 4.74	0.54	0	13	10	15	5	ne.	U. S. Weather Bureau.
Kissimmee	Osceola	65	18	81.6	+ 1.4	96	6†	66	19†	27	3.19	− 4.12	1.05	0	7	4	15	11	ne.	J. A. Simpson.
Lake City	Columbia	210	26	81.1	+ 2.8	96	13	64	19	28	4.36	− 0.81	3.85	0	6	15	14	1	e.	W. B. Knight.
Macclenny	Baker	125	14	79.4	+ 0.8	96	13	59	29	33	4.55	− 0.27	1.78	0	7	13	12	5		Griffing Bros. Co.
Madison	Madison	200	11	82.3	+ 3.5	99	17	69	19	26	2.19	− 3.37	0.89	0	11	22	2	6	ne.	E. J. Vann.
Malabar	Brevard	24	17	80.4	+ 0.2	99	12	64	17	30	1.40	− 6.96	0.85	0	3	26	4	0	se.	J. F. Farley.
Marianna	Jackson	80	8	81.6		100	14	65	19	30	3.74		2.97	0	4	21	4	5	sw.	W. J. Watson.
Merritts Island	Brevard	20	28	80.0	− 0.2	94	12	70	17†	20	1.82	− 5.95	1.31	0	6	1	29	0	e.	F. Ulrich.
Miami	Dade	47	10	82.0	+ 0.5	92	13	70	20	21	4.42	− 5.19	1.90	0	17	7	16	7	ne.	U. S. Weather Bureau.
Middleburg	Clay	10	10	80.0[f]		97[b]	30	62[d]	19	33	2.05	− 5.75		0						G. A. Chalker.
Molino	Escambia	49	9	80.0		97	13†	63	25	29	5.97		2.00	0	8	17	6	7	s.	W. H. Trimmer.
Monticello	Jefferson	207	7	82.6		99	14	65	19	29	0.40		0.35	0	2	25	5	0	n.	E. C. Potter.
Mount Pleasant	Gadsden	260	5	80.0		99	17	58	3	32	6.50		1.50	0	11				e.	Miss Addie Grubb.
New Smyrna	Volusia	9	26	80.5[a]	+ 2.0	98[a]	12†	66[a]	30	28	1.59	− 6.56	0.45	0	7	12	13	5	se.	F. Nordman.
Orange City	....do	39	17	80.2	+ 0.4	100	13	60	19	33	1.14	− 5.58	0.84	0	6	20	8	2	sw.	J. D. Graham.
Orlando	Orange	111	18	81.1[b]	+ 1.6	97[b]	13	65[b]	19	27	3.71	− 3.90	0.92	0	8				e.	James Thomson.
Pensacola	Escambia	149	31	81.7	+ 3.8	94	14	69	23	16	2.60	− 2.63	1.12	0	7	13	11	6	s.	U. S. Weather Bureau.
Pinellas Park§	Hillsboro	20		81.4		92	1†	64	2	26	10.71		2.65	0	15	12	12	6	w.	C. M. Dechant.
Plant City	....do	121	17	80.7	+ 1.3	93	7†	67	16†	24	1.50	− 5.69	0.87	0	4	18	12	0	e.	E. B. Trask.
Rockwell	Marion	10	9	81.4[d]		96[d]	13	64[d]	19	27	2.66	− 2.67	1.29	0	9				e.	Dunellon Phos. Co.
St. Andrew	Washington	14	14	82.4	+ 3.6	97	13†	69	19	24	8.43	+ 2.20	2.00	0	13	22	8	0	s.	W. A. Emmons.
St. Augustine	St. Johns	10	59	81.6	+ 2.2	100	17	66	16	28	1.14	− 5.58	0.51	0	4	29	1	0	e.	E. F. Joyce.
St. Leo	Pasco	140	14	80.4	+ 0.7	94	1	67	16	24	2.24	− 4.27	0.68	0	11	12	17	1	e.	G. Schneider.
Satsuma Heights§	Putnam	98	3	80.6		96	13†	63	19	28	3.89		0.76	0	10	9	21	0	se.	Satsuma Co.
Tallahassee	Leon	192	24	80.2	+ 3.6	93	13	68	19	21	2.45	− 2.57	0.60	0	8	26	2	2	s.	W. H. Markham.
Tampa	Hillsboro	79	21	81.3	+ 3.0	93	1	69	2	21	7.01	− 0.40	2.18	0	14	14	16	0	ne.	U. S. Weather Bureau.
Tarpon Springs	....do	20	26	81.4	+ 2.0	96	14	68	16†	24	14.27	+ 7.69	3.18	0	14	19	11	0	w.	A. P. Albaugh.
Titusville	Brevard	16	15	82.2	+ 2.9	96	12	66	19	27	1.78	− 6.52	0.52	0	17	17	11	2		F. M. Taylor.
Wausau	Washington	250	11	82.6	+ 4.7	100	14	65	20	30	7.28	+ 0.73	3.10	0	8	7	19	4	s.	Curtis Jones.
Alabama.																				
Alaga	Houston	105	6								1.39		0.75	0	6				e.	James L. Willis.
Anniston	Calhoun	728	20	78.7	+ 7.4	94	13	60	1	28	1.36	− 2.17	0.72	0	5	8	15	7	se.	U. S. Weather Bureau.
Ashville	St. Clair	685	18	78.2	+ 5.1	97	8†	59	1	31	1.73	− 1.95	0.90	0	3	26	4	0	sw.	George R. Cather.
Auburn	Lee	732	29	81.4	+ 6.6	98	14	64	1	30	4.16	+ 1.11	3.17	0	11	4	14	12	sw.	Dr. Jas. T. Anderson.
Benton	Lowndes	149	10								0.65	− 2.52	0.46	0	5				w.	S. T. Pruitt.
Bermuda	Conecuh		24	81.4	+ 5.7	99	14	65	24	30	3.61	− 0.25	1.51	0	13	10	19	1	nw.	M. J. Morris.
Birmingham	Jefferson	701	23	80.4	+ 6.4	96	14	60	1	29	2.05	− 1.45	1.55	0	8	11	18	1	s.	U. S. Weather Bureau.
Calera	Shelby	500	10								0.50	− 2.85	0.23	0	3				e.	L. G. Privett.
Camp Hill	Tallapoosa	738	10	79.6	+ 4.0	98	13	61	1	33	1.86	− 2.37	1.30	0	4	24	3	3	s.	Dr. Lyman Ward.
Cedar Bluff	Cherokee	594	7								3.21		1.25	0	6	15	15	0		Joseph L. Daniel.
Citronelle	Mobile	331	23	82.0	+ 4.5	97	12†	68	24	26	5.97	+ 1.34	1.65	0	14	17	12	1	s.	Rev. W. H. Rowe.

TABLE 1.—*Climatological data for September, 1911. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Alabama*—Continued.**																				
Clanton	Chilton	590	18	79.6	+ 4.6	96	2†	59	1	35	3.39	+ 1.06	1.40	0	8	11	5	14	se.	Wallace C. Edler.
Cochrane	Pickens	100	1	.....	.....	.....	.....	.....	.....	.....	1.20	.....	0.52	0	3	.....	.....	.....	ne.	T. H. G. Cook.
Cordova	Walker	334	20	78.6	+ 5.1	97	13	58	1	31	T.	− 2.92	T.	0	0	18	10	2	s.	Scott Maxwell.
Cullman	Cullman	802	3	78.2	.....	96	30	57	1	31	3.09	.....	1.98	0	7	15	15	0	nw.	Eugene A. Grayot.
Dadeville	Tallapoosa	760	6	.....	.....	.....	.....	.....	.....	.....	2.67	.....	1.05	0	4	.....	.....	.....	e.	Dr. W. B. Fulton.
Daphne	Baldwin	.....	20	82.1°	+ 4.4	100	13	68	24	25	2.25	− 3.92	1.10	0	4	16	9	5	nw.	John H. Young.
Demopolis	Marengo	.....	19	.....	.....	.....	.....	.....	.....	.....	2.03	− 0.94	0.80	0	9	26	1	3	nw.	George E. Pegram.
Eufaula	Barbour	200	27	79.0	+ 3.0	97	17	65	13	31	2.56	− 0.66	1.36	0	7	16	13	1	s.	Dr. J. B. Whitlock.
Evergreen	Conecuh	285	27	82.4	+ 6.1	102	14	65	1†	34	1.70	− 1.81	0.70	0	6	23	0	7	e.	Robert L. Whitcomb.
Flomaton	Escambia	91	19	82.2	+ 5.7	98	15†	67	13†	31	1.22	− 2.24	0.40	0	9	14	15	1	s.	T. J. Farris.
Fort Deposit	Lowndes	520	27	80.6	+ 4.6	96	14	65	1	27	3.50	+ 0.98	1.30	0	6	22	5	3	sw.	J. F. Hattemer.
Gadsden	Etowah	621	27	80.4	+ 6.4	96	2†	62	1	29	4.02	+ 0.61	1.30	0	6	12	12	6	e.	D. P. Goodhue.
Goodwater	Coosa	826	16	81.2	+ 5.3	100	30	59	1	36	1.08	− 1.50	0.43	0	6	23	0	7	e.	Miss Daisy Buice.
Greensboro	Hale	220	32	80.4	+ 5.1	95	13†	57	3	26	3.10	+ 0.18	1.15	0	9	22	4	4	se.	W. E. W. Yerby.
Greenville	Butler	444	10	.....	.....	.....	.....	.....	.....	.....	2.32	− 1.09	0.55	0	5	.....	.....	.....	.....	E. M. Lewis.
Hamilton	Marion	.....	15	81.4	+ 5.9	103	27†	56	1	40	0.22	− 2.39	0.15	0	2	24	3	3	nw.	Prof. H. O. Sargent.
Highland Home	Crenshaw	.....	19	81.5	+ 5.2	97	30	68	1†	28	5.98	+ 3.61	2.80	0	8	19	8	3	s.	Prof. Samuel Jordan.
Livingston	Sumter	160	27	80.7	+ 4.9	96	13	62	1	28	1.26	− 1.13	0.34	0	5	26	0	4	e.	Robert L. King.
Lock No. 4	Talladega	510	14	80.2	+ 5.9	95	2†	64	2	31	2.98	+ 0.20	1.00	0	8	25	0	5	e.	U. S. Engineers.
Maple Grove	Cherokee	.....	18	80.2	+ 7.0	105	28	60	28	45	1.80	− 1.50	0.60	0	5	13	17	0	ne.	Mrs. A. L. Awbrey.
Mentone	De Kalb	1,595	4	.....	.....	.....	.....	.....	.....	.....	1.96	.....	0.67	0	6	.....	.....	.....	e.	E. Mason.
Milstead	Macon	.....	8	.....	.....	.....	.....	.....	.....	.....	1.78	.....	0.80	0	9	.....	.....	.....	e.	Evie Oswalt.
Mobile	Mobile	84	39	82.0	+ 5.5	96	13	70	20	20	4.09	− 0.93	2.58	0	7	17	6	7	nw.	U. S. Weather Bureau.
Montgomery	Montgomery	240	39	81.6	+ 5.8	96	14	66	1	25	1.36	− 1.52	0.61	0	9	7	21	2	e.	Do.
Newbern	Hale	.....	18	83.0	+ 6.1	103	13	61	1	33	1.66	− 0.89	0.62	0	11	8	22	0	s.	Dr. J. Huggins.
Oneonta	Blount	857	17	78.0	+ 5.3	96	28†	56	1	33	1.05	− 2.07	0.40	0	8	12	6	12	w.	Aquilla J. Ketchum.
Opelika	Lee	817	32	79.6	+ 5.0	93	16	65	1	24	2.97	+ 0.29	2.00	0	8	21	2	7	e.	A. H. Read, jr.
Ozark	Dale	400	9	81.6	.....	98	14	69	25†	25	1.67	.....	1.00	0	4	20	9	1	s.	Miss Lucy Sellers.
Prattville	Autauga	281	11	79.8	+ 4.1	95	30	61	1	30	2.07	.....	0.60	0	7	17	13	0	e.	Joseph B. Bell.
Pushmataha	Choctaw	.....	20	81.1†	+ 5.2	97	18	.....	.....	31	5.41	+ 2.47	3.00	0	5	.....	.....	.....	.....	W. N. Horn.
Selma	Dallas	147	31	82.5	+ 6.0	100	12†	63	1	30	3.10	+ 0.96	1.92	0	7	22	6	2	e.	Charles F. Brislin.
Spring Hill §	Mobile	312	7	81.4	.....	98	13	67	24	26	4.09	.....	1.48	0	8	10	0	20	n.	Spring Hill College.
Talladega	Talladega	554	21	80.8	+ 6.3	97	30	66	20†	28	2.41	− 0.25	0.70	0	5	15	12	3	nw.	W. E. Henkel.
Tallassee	Elmore	.....	20	.....	.....	.....	.....	.....	.....	.....	1.44	− 0.93	0.62	0	8	.....	.....	.....	n.	P. A. Noble.
Thomasville	Clarke	385	20	78.8	+ 2.7	97	14	62	1	30	1.57	− 1.20	0.40	0	8	24	0	6	s.	J. G. Forster.
Troy	Pike	581	3	82.4	.....	100	13	68	1	31	1.29	.....	0.66	0	9	4	26	0	w.	Frank L. Zimmermann.
Tuscaloosa	Tuscaloosa	230	30	82.2	+ 6.7	99	14	60	1	32	1.59	− 1.19	0.42	0	8	25	1	4	ne.	W. S. Wymann, jr.
Tuskegee	Macon	.....	11	82.2	+ 4.2	100	14	63	1	32	2.86	+ 0.86	1.03	0	4	0	30	0	n.	Prof. Geo. W. Carver.
Union Springs	Bullock	216	24	80.7	+ 4.9	94	14†	66	1	27	5.69	+ 2.46	2.38	0	8	5	25	0	w.	P. L. Cowan.
Uniontown	Perry	273	25	80.0	+ 3.5	100	13	59	18	40	0.86	− 1.81	0.40	0	6	25	3	2	sw.	F. D. Stevens.
Valley Head	De Kalb	1,031	26	78.6	+ 7.2	96	7†	61	1	34	2.75	− 0.40	0.73	0	5	20	10	0	.....	M. T. Floyd, M. D.
Wetumpka	Elmore	205	19	82.6	+ 5.3	99	10†	62	1	32	1.87	− 0.54	0.70	0	5	25	0	5	s.	U. S. Engineers.
Mississippi.																				
Aberdeen	Monroe	210	23	81.1	+ 7.7	100	14	61	1†	31	0.34	− 2.42	0.22	0	2	24	2	4	n.	L. D. Godfrey, jr.
Agricultural College	Oktibbeha	424	21	81.9	+ 6.9	100	13†	64	1†	32	0.20	− 2.45	0.10	0	2	20	10	0	ne.	J. R. Ricks.
Bay Saint Louis	Hancock	28	18	82.6	+ 3.7	98	13	70	14	22	0.52	− 4.82	0.21	0	7	11	17	2	se.	Brother Stanislaus.
Biloxi	Harrison	24	20	83.1	+ 4.8	94	14†	71	24	22	3.42	− 3.15	1.16	0	6	17	8	5	sw.	Miss M. Josie Pope.
Booneville	Prentiss	504	17	78.7	+ 4.8	94	14	59	22†	28	1.85	− 0.68	0.71	0	6	19	11	0	s.	Dr. D. T. Price.
Brookhaven	Lincoln	500	23	82.0	+ 5.6	99	13	66	24	27	1.94	− 1.67	1.10	0	7	18	8	4	e.	W. J. Bee.
Columbia	Marion	110	7	.....	.....	.....	.....	.....	.....	.....	5.82	.....	2.08	0	11	22	3	5	ne.	N. R. Drummond.
Columbus	Lowndes	191	23	82.1	+ 6.2	101	14	60	1	34	0.13	− 3.04	0.08	0	2	25	3	2	se.	J. B. Love.
Crystal Springs	Copiah	168	19	81.9	+ 5.6	100	14	66	1†	28	2.41	− 0.62	0.90	0	6	25	5	0	.....	D. H. Miller.
Edinburg	Leake	.....	3	80.2	.....	99	14	59	1	31	0.47	.....	0.40	0	2	14	15	1	w.	J. Y. Blocker.
Enterprise	Clarke	248	6	.....	.....	.....	.....	.....	.....	.....	1.28	.....	0.75	0	4	.....	.....	.....	.....	J. B. Thompson.
Fulton	Itawamba	.....	2	.....	.....	.....	.....	.....	.....	.....	0.06	.....	0.06	0	1	16	10	4	s.	A. L. Summers.
Hattiesburg	Forest	189	18	83.0	+ 5.5	99	8†	64	21	33	1.56	− 2.73	0.56	0	4	27	0	3	n.	T. C. Spence.
Hazlehurst	Copiah	460	21	81.2	+ 4.5	98	13	65	1	26	2.65	+ 0.02	1.60	0	6	20	3	7	sw.	J. D. Granberry.
Hickory	Newton	326	1	.....	.....	.....	.....	.....	.....	.....	3.37	.....	1.66	0	5	22	6	2	e.	T. N. McMullen.
Jackson	Hinds	280	24	82.5	+ 6.4	100	13	64	1	28	1.34	− 1.56	0.51	0	5	10	16	4	ne.	A. S. Nall.
Lake	Scott	446	23	79.2	+ 4.9	95	13	60	1	28	1.30	− 1.42	1.00	0	3	22	4	4	sw.	Mrs. Eddie McNeel.
Lake Como	Jasper	.....	8	80.8	.....	101	13	63	1	30	1.52	.....	0.51	0	7	18	7	5	s.	C. Thigpen.
Laurel	Jones	241	7	81.2	.....	98	13	64	23	29	2.57	.....	0.88	0	10	22	7	1	sw.	Thomas W. Flynt.
Leakesville	Greene	.....	17	82.4	+ 4.5	100	13	67	24	28	4.59	− 0.20	1.36	0	9	24ª	3ª	2ª	.....	Dr. Sam Pool.
Louisville	Winston	561	22	81.6	+ 6.6	98	14	61	1	30	1.27	− 1.43	0.53	0	5	.....	.....	.....	.....	B. T. Webster.
McNeill	Pearl River	230	8	80.4	.....	95	12	68	22†	25	7.54	.....	2.45	0	16	0	27ᵇ	1ᵇ	se.	Prof. E. B. Ferris.
Macon	Noxubee	185	23	81.6	+ 6.5	100	13†	60	1†	31	0.89	− 2.31	0.39	0	4	25	3	2	w.	Finis E. Carleton.
Magnolia	Pike	415	15	81.8	+ 5.0	103	14	66	6	32	6.20	+ 2.18	1.96	0	6	3	21	6	se.	Miss Ruby V. Roberts.
Meridian	Lauderdale	375	21	80.0	+ 7.3	96	13	61	1	26	3.09	− 0.38	2.17	0	8	15	12	3	sw.	U. S. Weather Bureau.
Merrill	Greene	76	6	.....	.....	.....	.....	.....	.....	.....	6.94	.....	2.40	0	11	21	5	4	n.	L. C. Helms.
Monticello	Lawrence	209	4	81.7	.....	100	13	64	1	30	1.85	.....	0.62	0	8	2	26	2	se.	Dr. G. A. Teunisson.
Okolona	Chickasaw	311	23	81.2	+ 6.7	99	14	62	1†	36	1.84	− 1.92	1.22	0	3	19	8	3	s.	D. H. Shell.
Pascagoula	Jackson	15	2	81.8	.....	97	18	69	24	26	4.80	.....	1.55	0	10	15ᵇ	7ᵇ	6ᵇ	se.	Frederick Hess.
Pearlington	Hancock	10	23	81.2	+ 3.7	96	13†	68	24	24	3.94	− 1.72	2.10	0	6	10ª	17ª	2ª	e.	Miss Annette Koch.
Porterville	Kemper	.....	6	81.7	.....	102	13	60	1	33	1.59	.....	0.49	0	5	12	17	1	se.	I. S. Rea.
Shubuta	Clarke	197	6	.....	.....	.....	.....	.....	.....	.....	1.81	.....	0.70	0	7	.....	.....	.....	.....	George A. Floyd.
Tupelo	Lee	278	12	.....	.....	.....	.....	.....	.....	.....	1.36	− 1.14	1.02	0	4	13	14	3	se.	W. H. St. John.
Waynesboro	Wayne	191	24	80.1	+ 4.6	96	13	64	1	26	8.06	+ 5.08	2.73	0	8	18	4	8	w.	R. S. Burke.

ª, ᵇ, ᶜ, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1911. District No. 2, South Atlantic and east Gulf States.*

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Virginia.																																
Arvonia	James				.28		.04					.75	.25	T.		.22	.16				.18	.23					T.			.12		2.23
Ashland	do											.52	.03	T.			.64				T.	.07										1.26
Bedford City	Roanoke									.08		.47	.26	T.			.09					.39							.05	.09		1.43
Buchanan	James											.72					.26						.31							.21		1.50
Callaville	Chowan				.32							.80									.08	.23		.28			.04					1.75
Cape Henry	Coast									.13		.04				.25	.14						.09									0.65
Catawba	Roanoke									1.75																						1.75
Charlottesville	James	T.	T.	.23	.13					T.		.98	.06	T.		.19	.33			.28	.09	.07		T.						.10		2.46
Clarkesville	Roanoke	.34										1.02											.08									1.44
Columbia	James			.65								.85	T.			.38	.75					.19					T.			.10		2.92
Covesville	do											1.45	T.				T.				T.			T.				T.		.17		1.62
Danville	Roanoke	.12		T.			.12						05						.19		.14	.02	.54		T.							1.18
Diamond Springs	Coast	1.17								.06		.12				.22	.40						.25	.36	.10					T.		2.68
Hampton	do	.48								T.		.09				.07	.09							.07						T.		0.80
Hot Springs	James						.14			.02		1.10	.33	.02		.42	.20			.03		.03	.06						.40	.35		3.10
Ivor	Chowan											.16		.17											.85							1.18
Lassiter	James										.12	.60		.75								.10										1.57
Lexington	do					T.						.58	.13			.42						.37							.05	.23		1.78
Lynchburg	do					.01	.02					.35				.05	.03			.01		.24								.14		0.85
New Castle	do				.10							.17								.33										.09		0.69
Newport News	Coast									.02		.18	.05	T.		.15	.23							.01	T.					.01		0.65
Norfolk	do						T.			T.		.09	.02			.17	T.						.25	.09	.01							0.53
Petersburg	James											.40	T.			T.	.40					.40		T.								1.20
Randolph	Roanoke	.20																					.68									0.88
Richmond	James	T.		T.					T.	T.	.06	.37	.50	T.	T.	.20	.02			T.		.70						T.		T.		1.85
Rocky Mount	Roanoke									.66		.38					.09		.08			1.07							.05	.05		2.38
Saxe	do											.35										.25					.35			.27		1.22
Spottsville (near)	Chowan			.13			T.					.58	.62			.48	.43						T.	T.	T.	.52						2.76
Williamsburg	James						T.					.42				.35	.50															1.27
North Carolina.																																
Albemarle	Pedee				1.17		1.27										T.					.76	.34	.12						.11		3.77
Beaufort	Bogue Sound	.52			.30	.02		.02	.15	.21	.03	.72						.10							.53	.03		.98		.04		3.65
Belhaven	Pungo				.03				1.97			.50									.65	1.01		.10								4.26
Caroleen	Santee					.22	1.00			.17	1.67	.10		.15								.77			.72							4.80
Chalybeate Springs	Cape Fear	.10			.47		.04					.06									T.	.52		.15						.17		1.51
Charlotte	Santee				1.15	2.02	.15					.13		.27								1.02		.01	.01	T.			T.			4.76
Chimney Rock	do			.54	.02	.02	.40			.10				.05		.32						.13		.40								1.98
Durham (near)	Neuse											.12					.14													.47		0.73
Eagletown	Chowan					.42			T.			.86		T.		.11	.33					.10	.12	T.	.10					T.		2.04
Edenton	Albemarle S'd					.05					.50	1.20						.80				T.	2.00	.30								4.85
Elizabethtown	Cape Fear	1.50				.95							97										.75	.59		.98						5.74
Enfield	Tar	.24					.07					.82	.15										.28									1.56
Fayetteville	Cape Fear	1.08					.11	.15			.08	.06	.12										.06	.04	.21					.07		1.98
Goldsboro	Neuse	1.35				.02						.40	34										.20	.10	.02	T.		.10		.10	.02	2.65
Graham	Cape Fear	.11			.24	1.79	.10					.05						.57			.04		.22	.25						.87		4.24
Greensboro	do	.03				1.00	.38														.92	.06	.82							.67		3.88
Greenville	Tar	1.21				.12	.30			.05	.01	.02	1.01				.02	.10					.51	.42		.23				.05	T.	4.05
Hatteras	Pamlico Sound	1.35			.03		.47		.66	.01	T.	.88	.15				1.14							.12	T.	.01	.22			.04		5.08
Henderson	Tar & Roanoke					T.						.26				.14	.18					.02								.45		1.05
Kings Mountain (near)	Santee				.30	.50	.10					.02		.03						.10		.31		.08		.15						1.39
Kinston	Neuse	.38	.01		.22	.14				1.52		.45					.02				.02	.51		.20	.02					.28		3.77
Lenoir	Santee					.03	.37			.02		.08		.02				.05				3.12		1.22		.02						4.93
Lincolnton	do				2.22	.74						.53		.18								.36				.38						4.41
Louisburg	Tar	1.18										1.20					T.						.15									2.53
Lumberton	Lumber	3.10		.01		T.	.05			.05		T.	.67		T.							.06	.27	.64	T.					T.		4.85
Marion	Santee				.03	.12	.06			.01		.06		.16			.02	.04	.03	T.	T.	.11	.22	.03	.02	T.						0.91
Middletown	Pamlico Sound	.38	T.	T.	.27				1.20	.09	T.	.13	.20		.17	T.		1.50											1.31	.34	.09	.07	5.75
Moncure	Cape Fear	.20				.25	.20					.08											.98	.05							.20		1.96
Monroe	Pedee				1.00	.20	.77							.12								.95		.50				.15				3.69
Morganton	Santee				.23	.02	.40			.05	T.	T.		.14				T.	.03			2.47	.10	.05	.06							3.55
Mount Airy	Pedee				T.	.05	.09			.07		.36					T.					2.10	.50			.20				.10		3.47
Mount Holly	Santee					1.06	1.96						.40		.20							26	1.00									4.88
Nashville	Tar	.06								.08		.07	.16					.03				33	.38	.03						T.		1.14
Neuse	Neuse	.20										.11											.19							.12		0.62
Newbern	do	.61		.09	T.	.27	.04	.38	1.24	.25			1.98				T.	T.				.05		1.64		T.	T.	.17		.02	.11	6.85
Pinehurst	Lumber				.71		.30														.12	1.11	.03	.02	.67					.10		3.06
Raleigh	Neuse				.02		.61					.39					.17					.21	.10	.16						.08		1.74
Ramseur	Cape Fear					.30	.15										.38			.01		.38				.01			.12			1.35
Randleman	do	.44				.10	.43															18	.70							.20		2.05
Reidsville	do						.52					.03						.27			.08	.70	.70							.05		2.35
Rock House	Savannah			T.	.17	.80	.10			.21	.03	.08				.39	T.	.01	.02	.08	.08	T.	1.48	.35	.57	.05	.02		.05			4.49
Rocky Mount	Tar						.15																.60	T.						.08		0.83
Roxboro	Roanoke											.51					.01					.23	.10									0.85
Salisbury	Pedee				.16	.20	.80					.07	.40									10	.79							.20		2.72
Saxon	Roanoke				.13	.17				.05		.10					.09				.06	.56							.05			1.21
Scotland Neck	Tar					.42						1.12				12						.14	.10		.70		.14					2.74
Selma	Neuse								.40			.80										40			.20				.60			2.40
Settle	Pedee				.60	.15	.38			.12	T.	.30					T.			T.		19	1.22									2.96
Sloan	Cape Fear			.53	.30		T.		.29	.74	.03									.37	T.	1.60		.60					.09			4.55
Smithfield	Neuse	2.09					T.	.04		.58		1.00											.57	.05	.06					.12		4.51
Snow Hill	do	1.51			.48			1.07	.16	.02		.97					.10					.36	.47	.51						.15		5.80
Southern Pines	Cape Fear	.50			.20	.10	.20		.35			.05										.90		.50						.60		3.40
Southport	do	2.70	.90							.76	T.		2.19			T.							T.	.33	.14	.18		.20	T.			7.46
Statesville	Pedee				.32	.47	.51			.35	T.												.21									1.86
Tarboro	Tar					T.	.10			1.01	.25	.14	1.37					.15					.57	.50		.04						4.13
Weldon	Roanoke	.71					.05			T.		.16	.68	T.			.23	.14				T.	1.07		.53					.05		3.62
Whiteville	Waccamaw	.15		.25									.43									.57	.60									2.00
Willard	Cape Fear	.24	.04	.60	.55		T.		1.25			.78									1.20	.75	1.34		.72							7.47
Wilmington	do	.06	.01	.02	.32	.13				.63	.08	2.35											.85	.23	.97	.14							5.79
South Carolina.																																
Aiken	Edisto				.34		.90														.55				.30							2.09
Allendale	Savannah	.48	.13	.35		.10	.38		1.00				.11							.19		.27		1.10	.05							4.16
Anderson	do			.05	1.62	.11	.38										.03				.22						.03						2.44
Batesburg	Edisto	.34			.15	.21	.41	.14														T.	.93	.53		1.15	.03	.54					4.43
Beaufort	Ocean		.30		.20	.05		1.83							.27	.75		.35					T.			.60	.12						4.47
Blackville	Edisto	.50	T.		1.48	.03	.80	1.90	.01	.05				.10						T.		.45	.10	.80			.20	.10					6.52
Blairs	Broad	.12				1.36	.15				.05	.05	.30								.04			.52	.14	.02							2.75
Bowman	Edisto	1.15	1.06		.18	.28	.16	.88				.17					.04				.21	1.40	.40									5.99

TABLE 2.—*Daily precipitation for September, 1911. District No. 2*—Continued.

Stations.	Watershed.	Day of month.																											Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
South Carolina—Con.																																
Calhoun Falls ‖	Savannah				.22	.54	.56						.08								.31				.37							2.08
Camden ‖	Wateree					.06	.40								.04			.06					.68	.90	.06							2.26
Catawba ‖	Catawba		.80			.38	.85						.07		.09							.24	.34		.09							2.80
Chappells ‖	Saluda				1.04			.42													.36		2.28		.16						.16	4.42
Charleston	Ocean	.28	3.00	.16	.03	.61	.71	.03		.01					.18			.04				.04	.06	T.	.04	.05		T.					5.24
Cheraw ‖	Pedee	1.44		.01		.09	.34			T.			.30		.06			.20			.04		.55	.90		.03		.04		.53		4.53
Clemson College	Savannah	1.00				1.24	.30											.36					.47									3.37
Columbia	Congaree				.10	1.54	.39		T.	.76	.16									.09	T.	2.19		.87	T.							6.10
Conway ‖	Waccamaw	.31	1.52	.09	.61	.08	.37		T.													1.34	T.	.79		.51	.08					5.70
Darlington ‖	Pedee					.16	.23						.20								.35	.83	.56	.29		.08				.05		2.75
Dillon	Little Pedee		.17		.01	.31	.04			1.78	.01	.64	.01	.02			T.				.04		.60	.06	.30	.04			.08	T.		4.11
Effingham ‖	Lynches	.20				T.	.50						T.								T.	T.	.80		T.	T.				.30		1.80
Ferguson ‖	Santee	.08	.58	.20	.03	.15	.20	2.40					.09									.03	.09	.10		.15						4.10
Florence ‖	Pedee	T.				.29	.10						.42								.18	.70	.58	1.06		.27				.48		4.08
Georgetown	Ocean	.81	.15	.55	.95	.35	.35	T.															.15		.14	.15						3.60
Greenville ‖	Saluda	T.			.90	.51	.94						.10								T.		T.	.23								2.74
Greenwood ‖	....do					.25	.49																									0.74
Heath Springs	Wateree					.40						.70					.06					.50		.60		.06						2.32
Jacksonboro	Edisto	1.38	2.50		.14	.25		.09	.09	T.					.01						T.		T.		2.70							7.16
Kingstree ‖	Black			.10	.05	.35	.20	.05				.30									.80	.70	.10			.13						2.78
Liberty	Savannah			.04	.50	.80	.40			T.	.04	T.				.25		.10	.02	.05	.08				.25			T.		T.		2.53
Little Mountain	Saluda				1.05	.14	.32														.40	.60	.25	.20		.10						3.06
Meriwether	Savannah				.76	.09	.85					.15									T.			T.	T.	T.						1.85
Newberry	Saluda				.10	.44	.72		.03											.54		.30	1.30	.02			.06			.32		3.83
Pelzer ‖	....do				.56	.82	.28																									1.66
St. George ‖	Edisto	.33	.12		.50	.55	.45	.25	.20				.60										.21		.10	.29	.20						3.80
St. Matthews ‖	Santee	1.54			.11	.28	1.25	.32		.20													1.8			.25				.45		4.58
Saluda	Saluda					.55						.13								.84						.31	.11					1.94
Santuc	Broad	.01			.08	.33	.35				.03	T.								.08	.31	.11	.24	2.12			.17					3.83
Smith Mills ‖	Pedee				.08	.21	.16						.42											.08	T.	.06	.08		.07			1.16
Society Hill	....do					.28					.10	.33								.12		.31	.96	.04								2.14
Spartanburg ‖	Broad	.05				.30	1.70						.04								.25	T.		.12	.02								2.48
Summerville	Ashley	.14	.29		.15	.06	.03	.58										.01					2.16	.42		.31			.06			4.21
Trenton	Edisto	T.	.28		.12	.03	1.47			1.00			.16							1.00	1.08					.55	.02						5.71
Walterboro	Ashepoo	1.81	.01		T.	.32	.06	.07								T.		.03			2.00	T.	.23		.61	.46						3.60
Winnsboro	Broad				T.																	.40							.50			2.90
Winthrop College	Catawba	T.				T.	1.85					.05		.11				.12	T.	T.		1.46	.14	T.								3.73
Yemassee ‖	Combahee	.07	1.08	1.67	.30	.19	.14	.04	2.35	.65	.01												.70			.15	.07					7.42
Georgia.																																
Abbeville ‖	Ocmulgee	.04	.05	T.	.41	.66			1.14										.13				.06	.19	.28	.15	T.					3.11
Adairsville ‖	Coosa												.62		.10					.18	.12						T.					1.02
Albany ‖	Flint			1.45		.50								T.					.42	.01		.22	.05	1.67	.12	.02			T.			4.46
Allapaha ‖	Allapaha		1.30			1.60			.29														.93	.08								4.20
Americus ‖	Flint				.47	.05		.24	.05														.15	.03								0.99
Athens ‖	Oconee						.05					T.	.02						.25		.03	.01		.07	.44							0.87
Atlanta	Chattahoochee			.15	T.	.01	.07				.13	.01			.04		.38		T.	.04		.04				.54					T.	1.41
Augusta	Savannah	.32			.28		.61					.02						T.		.10	.05	.10		.01	T.		.01					1.50
Bainbridge ‖	Flint	1.18	.22	.65	.41	.12	.06			.63	.43		T.	T.					T.			.76	.05	.17	.14	.03							4.85
Barnesville	....do				.08	.32	.05						.25					.02		.15		.02		.10								0.99
Butler ‖	....do				.82			.32													.93		.76	.39	.98							4.20
Camak ‖	Savannah						.44	.91	.58												.71				.55	2.15		.20				5.54
Canton ‖	Coosa				.11		.77						.55								.27		.13									1.83
Carlton ‖	Savannah				1.67	.21	.33																									2.18
Clayton	....do	T.		T.	T.	.76	.63				T.			T.				.40		.25	.30	T.		4.50	.33			T.				7.17
Columbus ‖	Chattahoochee			.74	.17	.62	.07									T.			.20	T.			.77	.04	T.							2.61
Covington ‖	Ocmulgee				.10														.30		1.00		.30		.05		.80					2.55
Cuthbert ‖	Chattahoochee			.90														.82														1.72
Dahlonega	....do			.05	.04	.10	1.50					.09						.26		T.		1.18										3.22
Diamond	Tennessee			.06	.01	*	2.00					.70		T.	T.			T.	.02	.01	T.	.09		T.		T.						2.89
Dublin ‖	Oconee		.22	.08	.66		T.		1.13				.55						T.				1.30	1.80	.20	.27	T.					6.21
Eastman ‖	Ocmulgee	.22	.69	.05	1.68	1.29	.04		1.69				T.						T.				.78	1.20	T.	T.						7.64
Eatonton	Oconee				.55	.41	.10					.30						.85		.11			.22	.25	.05	.15						2.99
Elberton	Savannah				.32	.86	.40													.98	.02	.16		.25	T.							2.99
Experiment	Chattahoochee				.80								.08	.75				T.						.75								2.38
Fort Gaines ‖	....do					.40													.10				.70	.30								1.50
Gainesville ‖	....do				.66	.34	1.90	.17					.10																				3.17
Glennville ‖	Altamaha	.08	1.41	.03	3.23	.05	T.	.76		.10		T.										2.86		T.	.06		.01						8.59
Gore	Coosa			2.00	T.		.32					.21						.35	.30	.26		.29										3.73
Greensboro ‖	Oconee					.08	.15						T.						.04		T.				.52		T.					0.79
Griffin ‖	Chattahoochee				.63	T.	.05						.10		.80				.25		T.		.10	.50	.65		T.					3.08
Harrison	Ogeechee			.39	.16	.45	.05	.80		.65		.05				.78						.04		1.55								4.92
Hartwell	Savannah				*	1.99	1.00													.42			1.70	.08								5.19
Hawkinsville ‖	Ocmulgee			1.42	.31	.73																		T.	.90	.22						3.58
Lisbon	Savannah				.48	.54	.54													.70	.04	.28		.70								3.28
Lost Mountain	Chattahoochee				1.14	.06	.15					.08		.12		T.							40										1.95
Louisville	Ogeechee		.22	.40	.16		.04					.70						.25						.58		.20						2.55
Lumber City ‖	Ocmulgee	.12	.02	.09	1.87	.06	.06	.02	.65										T.				.08	.40	.14	.16	T.					3.67
Lumpkin ‖	Chattahoochee				.36		T.											.29				T.	T.			T.						0.65
Macon	Ocmulgee			.10		.01	.12	.06					.01			.14		.06				.63	.36	2.24	.08							3.81
Marshallville ‖	Flint		T.		.11	.17	T.	T.	.73	T.			T.					T.	T.		.65	T.	.05	.63	.47							2.81
Milledgeville ‖	Oconee				.09		.20						.54					T.	.57		.60		.42	.05	.16	.06						2.09
Millen ‖	Ogeechee	.25	.15	.14	.10		.72		.40				.10										T.				.35						2.21
Mineral Bluff	Tennessee		.02		.06	.87					.23	.35		.02				.12		.20		1.36	.02		.07							3.32
Montezuma ‖	Flint			.05	.24	.20															.56				.06							1.11
Monticello ‖	Ocmulgee				.05		.56													.48	.08		.01		.10	.30							1.58
Morgan	Flint							.40				.25			.64			.16						.42		.60	.15						2.62
Newnan ‖	Chattahoochee				.86															.22	.04	.31		T.									1.43
Norcross ‖	....do				.01	.02	.01					.02	.12											.10									0.28
Point Peter	Savannah			2.10	.48																											2.58
Poulan	Suwanee	.17	.20		.66			1.33					.20			.04		.68					.33		.02			.08				3.71
Putnam	Flint		1.50	1.70																			.30	.10								3.60
Quitman ‖	Suwanee					.32			1.86					.19					44														2.81
Ramhurst	Coosa				.15	.29	.26					.10						.33	.18	.05		.12		.04									1.52
Resaca ‖	....do				.17	T.	.45				T.										.20									T.		0.82
Rome ‖	....do				.42			.42					.40								.28		.06									1.67
St. George ‖	St. Marys					.13	1.60		.73	.89	.08							.18	.07														3.68
St. Marys	....do		1.40			.14		.05		.14			T.			T.		.14				.05		.08		.09	T.					2.00
Savannah	Savannah	T.	T.	.13	.40	.18	.02	.16	T.	.10					.07	.13		.61				1.06	T.	.14	.09	.91	T.					4.00
Statesboro ‖	Ogeechee	.74	T.	T.	.33	T.	.14	1.06				.04						T.				1.04			.20	.02						3.47

TABLE 2.—*Daily precipitation for September, 1911. District No. 2*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Georgia—Continued.																																
Talbotton	Chattahoochee																	.06					1.62								1.68
Tallapoosa	Coosa				.17	.01	.04						.11				.18		.12	.27	.26		T.								1.16
Thomasville	Ocklocknee	T.	.30	.07	T.	T.		T.	.08	.06			.07				.72	.11			.34	.01	.62	.14							2.52
Tifton	Suwanee	.36	.04			2.94																.03	1.13	.20							4.70
Toccoa	Savannah				.05	.26	1.53												.62		.25	.11	.36			.08		.12			3.38
Valdosta	Suwanee			1.40		T.			.35					T.				30					T.	.30		T.					2.35
Washington	Savannah		T.			2.05	1.30						.34						T.		.15				.62						4.46
Waycross	Satilla		1.80	.05		.06			.28	.01									1.87			.06	.01		.13						4.27
Waynesboro	Savannah	.90	.10	1.65	.10		.90	.15	.50				.40													T.					4.70
West Point	Chattahoochee				.20		.42	.20											.33	.02	.52		.50	.05							2.24
Woodbury	Flint				.24		.17												.21	.08	.45		.14		.04		.10				1.43
Florida.																																
Apalachicola	Coast								2.00				.11						.08				.34		.12	.34	.26				3.25
Arcadia	Peace Creek	.01	.48	.01		.17	.04		.10	.25	.09								.50						.04		.10	.37	.26			2.44
Avon Park	Kissimmee		.08	T.		.02			.42	.10				.82					.13					.16	.05	T.	.18	.10	T.			2.06
Bartow	Peace Creek	.18				.14	.28	.21			.03	.34	.07			.23									.50			1.50	.08			3.56
Blountstown	Apalachicola			.26	.30																.52			.58							1.66
Bradentown	Manatee	.30	.83	.67	.05	.30			.14	.28				.47					1.17					.43	.84		1.87	.32				7.67
Brooksville	Withlacoochee		.73	.50	1.10	3.36	.75			1.57		.72		1.38													.20				10.31
Carabelle	Coast	.80																.67	.24						.40		.02	.05			2.18
Cedar Keys	do		.06			.11	.03					.52				.56		.29						.05	.34	.16	.05	.08			2.25
Clermont	Lake		1.25		.45					.52								.45						.32			.12				3.11
De Funiak Springs	Choctawhatchee			2.45		T.	.56		1.85										.02				*	.12							5.00
De Land	St. Johns	.17	1.50		.20	.02			.01	.89	.30	T.								T.				.07			.62	T.			3.78
Eustis	Lake	T.	.29							.37								.32						.59		.15	.25				1.97
Federal Point	St. Johns	.19	.11	.23	.40					.32		.12	.62						.13						.18		.47	.11			2.88
Fenholloway	Fenholloway	1.48					.32		2.70	*	.32							.72					.29								5.83
Fernandina	Coast	.07	.03	T.					.05	T.							.11	T.	.30	.03							.12				0.71
Fort Meade	Peace Creek	T.		.12	T.	.30			.95	.11	T.	T.	.06					.08			T.			.40		T.	1.02	.12			3.16
Fort Myers	Caloosahatchee		.70	.06	.35	T.	T.	.35	.25			.21							.05		T.	T.	T.	2.72	.15	.35	.47	.18	.03			5.87
Fort Pierce	Indian										.20													.60	.10	.50	.10	.30				1.80
Gainesville	Lake	1.06	T.	.10	1.20		2.35		.03		.08				.26				.49						T.			.23	.07			5.87
Grasmere	do	.02	.81	.20	.13	1.98			.20	T.	.99							.90		T.				1.20	.07	.01	.17	.09				6.77
Hilliard	Nassau		.20		.10	.50												1.75								.30						2.85
Homestead	Coast		.13	.08	.22	.40	.16	.15	.02	.56	.30		.07	.28		.08		.05	2.08	.02				.57		.98	1.36	.45	.52	.18		8.66
Hypoluxo	Lake					.31	.27	.17	.05	.05	.21	.05	.02						.65	.14			1.22	1.05	.02	.58	1.52	.11				5.77
Inverness	Withlacoochee	.10	.30	.10	.80	.15				.03			.40			.03		.65	.30					.26		T.		.03				3.15
Jacksonville	St. Johns		.03			T.		.07	.46	.11						T.	.06	.14							.03	T.	T.					0.90
Jasper	Suwanee		.29		.03			.23	.10	.05			.27									1.34	1.10	.07	T.	T.						3.48
Johnstown	do	.04	.03		.22	.30	.71	.88	.12		.23							.11							.16		.12					2.92
Key West	Coast	.02	.16		T.	.02	.22	T.	.06	.11	.41	.04			.28	.01	T.		T.		.13	T.		T.	.54	T.	.05					2.05
Kissimmee	Kissimmee			.48		T.		.14	T.	.20				.26	1.05				T.	T.				.58	.48		T.					3.19
Lake City	Suwanee	T.	.15	.26	T.			1.85	2.00	T.									T.						.20	.04						4.36
Macclenny	St. Marys	.37		.42		.03		1.78				.39				.02									.06	.04						4.55
Madison	Suwanee	.04	.89	.03					.41	.40									.06		.09	.15	.01	1.54	.09		.02					2.19
Malabar	Indian		T.																				12	.85			.33		.10			1.40
Marianna	Apalachicola	T.	2.97																.01				72			.04						3.74
Merritts Island	Indian					.05				T.		.02						T.	.02	T.	.34	T.	T.	1.31			.08					1.82
Miami	Coast	.04	.32	.13	.12	.12	.04	T.	.06	.03	.46			T.			.06		.92				.02	.09		.01	1.89	.09	.02			4.42
Middleburg	St. Johns		.50			.20			.05									*	1.30													2.05
Molino	Escambia			.83			.56	.60	.57	.38		.35							2.00								.68					5.97
Monticello	Aucilla								.35									.05														0.40
Mount Pleasant	Apalachicola	.35	.03	.05	.05				.40									1.30	.12			1.40		1.50		1.20	.10					6.50
New Smyrna	Coast				.20								.45						.28		.04				.20	.04	.38					1.59
Orange City	St. Johns	.15	.04		.04																						.84	.02	.05			1.14
Orlando	do		T.	.17		.20			.07	T.				T.				T.	.35					.90	.85	.25	.92					3.71
Pensacola	Coast		.90	.41	.23	T.	T.			T.		T.	.39						.07				T.	.25	.35	T.	T.					2.60
Pinellas Park	do		.85	.50	.60	1.00	.55		2.65		T.	1.00	.36	.03					.75					.04		.37	1.60	.33	.08			10.71
Plant City	Hillsboro		.09								.43		.11														.87					1.50
Rockwell	Withlacoochee		.16		1.29		.04					.27	.31			.01			.32							.10	.16					2.66
St. Andrew	Coast	2.00	.23				.14				.14		.53						2.35	.07				.60	.40	1.82	.11	.03	.01			8.43
St. Augustine	do									.25									.51							.15	.23					1.14
St. Leo	Withlacoochee		.41	.07		.06			.04	.15				.68		T.		.11	.04					.06		.05	.57					2.24
Satsuma Heights	St. Johns	.57	.63	.18			.04						.15					.37						.10	.52	.76	.57					3.89
Tallahassee	Ocklocknee	.60	.20	.12	.45				T.	.33		.07												T.		.60	.08					2.45
Tampa	Coast	.08	.50	.12	T.	1.02	T.	T.	.90	.13	.03		T.	.40					.52			.20		.03	.78		2.18	.12				7.01
Tarpon Springs	do	2.23	1.37	1.07	.06			.76	1.15	.12		.02						.22	1.45					2.04	2.70	.48	.60					14.27
Titusville	Indian	.03			.40	.03		.50	.02	.06	T.	.01	.01					.12	.02	.04	.09	.02		.14			.22	.06	.01			1.78
Wausau	Choctawhatchee	.46	2.02	.80	.30			T.	3.10					.10	.05											.45						7.28
Alabama.																																
Alaga	Chattahoochee				.14	.75	.12				.08	T.		T.	T.				.22				T.			.08	T.	T.				1.39
Anniston	Coosa				.38		.05						.72					T.		.05		.16		T.		T.						1.36
Ashville	do					.12		T.					.71						T.		.90	T.										1.73
Auburn	Tallapoosa			.23	3.17	.12	.29	.14					T.	.01				.14		.01	T.	.03		T.		.01						4.16
Benton	Alabama					.12		.01	.06	T.				.04	.42																		0.65
Bermuda	Escambia				1.51	T.	.06		.05	.04		T.	.03	.32					.01	.15	.05			.01	1.17	.02	.19					3.61
Birmingham	Black Warrior				.05		.11		T.				.08	T.		1.55			.06	.15	.04	T.	.01		T.							2.05
Calera	Coosa							.18	.23													.09										0.50
Camp Hill	Tallapoosa				1.30		.23	.13											.20		T.											1.86
Cedar Bluff	Coosa				.20		.55						1.25						.30	.30	.61											3.21
Citronelle	Alabama				.60	1.15	.35		.07	.12		.08	.08	.01					.73	1.50	.15			.77	.14	.22						5.97
Clanton	Coosa						.10	.65		.31	1.40					.50			.20		.18						.05					3.39
Cochrane	Tombigbee									.40			.28												.52							1.20
Cordova	Black Warrior												T.								T.											T.
Cullman	do				T.		.28	.14				T.	1.54	.44				.09	.50			T.									.10	3.09
Dadeville	Tallapoosa					.78		.09	T.										1.05				T.		.75							2.67
Daphne	Gulf of Mexico	T.		1.10		T.				T.									.10	T.	T.		T.	.10		.95						2.25
Demopolis	Tombigbee				.04	.14	.09				.51		.23			.16					.03				.80	.03						2.03
Eufula	Chattahoochee				.04	.06		.16	.02			.06							.86				1.36				T.					2.56
Evergreen	Escambia					.70			.09	.14		.41									.06			.30								1.70
Flomaton	do				.40	T.	.03	.04	.08	.36									.03		.20				.03	.05						1.22
Fort Deposit	do				.95		.30	.30	1.30										.45													3.50
Gadsden	Coosa					.48		1.30	.02						20										1.20							4.02
Goodwater	do							.10					.34	.09							.90		.12									1.08
Greensboro	Black Warrior					.55	.02	.09	.21							1.15			.47	.17	.33	.10	.12									3.10
Greenville	Escambia				.54		.55		.54												.41				.03							2.32
Hamilton	Tombigbee					.15	T.	.07		T.											.44					.25						0.22
Highland Home	Escambia			.50	2.70	.10			.35			.11	.34		T.			1.50	.38														5.98

TABLE 2.—*Daily precipitation for September, 1911. District No. 2*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Alabama—Contd.																																
Livingston ‖	Tombigbee				.20	.32	.34													.29					.11						1.26
Lock No. 4	Coosa				.35	.60						.30	.20					.25		1.00		.18	.10								2.98
Maple Grove	do			.19		.34						.60		T.				T.	T.	.20		.47									T.	1.80
Mentone ‖	do	.06				T.	.56					.60							.60	.07	.07	T.									T.	1.36
Milstead ‖	Tallapoosa			.08	.06	.80	.20						.04	.06		.30									.10	.14						1.78
Mobile	Gulf of Mexico		.01	.78	.45	2.17	T.			T.		T.	T.						.34	.30				T.	.04	T.			T.			4.09
Montgomery	Alabama			.14	.28	.44		T.	T.			.01	T.					.01	.06	.01	.37	T.		.04		T.						1.36
Newbern	Black Warrior			.01	.22	.01		.01	.02		T.	T.	.01			.45		.24	.05	T.	.02			.02		T.						1.66
Oneonta	do				.09	.20	.06					.40	.06					T.	.01	.20								.03				1.05
Opelika ‖	Tallapoosa			.18	2.00	T.	.08	T.					.10				.27		.17		.05	T.	.12	T.								2.97
Ozark ‖	Gulf of Mexico			T.					1.00	.25								.12			T.				T.	.30						1.67
Prattville	Alabama			.10	.60	.13	T.	.42	.59			T.			.12			.11	T.				T.	T.								2.07
Pushmataha	Tombigbee			.55	3.00	1.26			.53			.07							T.	T.				T.		T.						5.41
Selma ‖	Alabama				.12		.06		T.				T.	.04	.17				.08	.71				1.92								3.10
Spring Hill ‖	Gulf of Mexico				1.27	.45	T.		.46				.06							.32	1.37	.11				.05	T.					4.09
Talladega	Coosa					.22						.66	T.							.53		.70	.30									2.41
Tallassee ‖	Tallapoosa				.19		.50	.62			.04		.05									.01	.01		.02							1.44
Thomasville ‖	Tombigbee				.07	.16				.40				.20						.03	.40				.23	.08						1.57
Troy	Escambia			T.		.10			.02		.16				.09				.09	.07	.01		.66	T.			T.	T.				1.29
Tuscaloosa ‖	Black Warrior						T.	.29	.01	.01	.38		T.	.23						.42	T.		T.		.22	.03						1.59
Tuskegee	Tallapoosa		.50	.99		T.	T.											1.03		.28	T.											2.86
Union Springs ‖	do		.55	.55	2.38	.75								.10					.80		.52				.04							5.69
Uniontown	Black Warrior				.10	.10	.10				.06		.10						.40													0.86
Valley Head	Coosa			.20		.68						.73						T.	.51	T.	T.	T.									.63	2.75
Wetumpka ‖	do				.15	.30	.40						.60									.42										1.87
Mississippi.																																
Aberdeen ‖	Tombigbee										.22		T.	.12																		0.34
Agricultural College	do					T.				T.	T.	.10			.10																T.	0.20
Bay St. Louis	Coast			.14	.21	.02								.10					.03		T.									.01	.01	0.52
Biloxi	do			1.16	.68	.32								.57					.47		T.			T.			T.			22		3.42
Booneville	Tombigbee						.20	.71		.34		.21	.02							T.											.28	1.85
Brookhaven ‖	Pearl			1.10			.03	.06										.02			.18			T.	T.	.52		T.		.03		1.94
Columbia ‖	do			2.08	1.63	T.	.05		.02						19			.03			.43			.67	.61	.02				.09		5.82
Columbus ‖	Tombigbee						.08		T.			T.	.05						T.													0.13
Crystal Springs	Pearl			.90						.40		.70						.18				.18			.05							2.41
Edinburg	do			.40	T.	.07	T.		T.		T.						T.							T.								0.47
Enterprise ‖	Chickasawhay				.75					.30										.08		.15										1.28
Fulton ‖	Tombigbee											.06																				0.06
Hattiesburg ‖	Leaf			.36			.22						T.		42										.56							1.56
Hazlehurst ‖	Pearl			1.60						.34							.02					.45			.01	.23						2.65
Hickory ‖	Chickasawhay			1.66	.02	.26																		1.02		.41						3.37
Jackson	Pearl		.08	T.					.30											.43	.02				.51							1.34
Lake ‖	do				.10		1.00			.20												T.										1.30
Lake Como	Leaf		T.	.37		.51			T.			T.	.14					.05		.16	.10			19				T.				1.52
Laurel	do		.35	.88	.01	.01	.03					.49					T.		T.	.01	.18			.45	.16				T.			2.37
Leakesville ‖	Chickasawhay				.60	.48				.17			.93							.18	.31			.15	1.36	.41						4.59
Louisville	Pearl			.29			.13		.29		.53		.03																				1.27
McNeill	do	.05	.30	.05	.48	.08	.18			.10	.06		.29							2.45	.52		1.70	.76	.32	.10		.10					7.54
Macon ‖	Tombigbee				T.	T.	.39	.10		T.		.25	T.												.15								0.89
Magnolia	Pearl		1.30										.08				.53			1.03			1.30	1.96								6.20
Meridian	Chickasawhay			2.17	.02	.15			.42			T.	.02							.02				.02	.27	T.						3.09
Merrill ‖	Pascagoula				2.40		.34	.10	.40	.90									T.		1.20		.10		1.20		.10			.10	.10	6.94
Monticello	Pearl		.62	.09		.50	.09		T.	.01										.38	.15					.01	T.		T.			1.85
Okolona ‖	Tombigbee							.12	.50		1.22		T.																			1.84
Pascagoula	Coast			.45	1.16	.40	.02	.77											1.55	.02	.24			.18	.01								4.80
Pearlington	Pearl	.18		.51	T.	.46								.47						.22				2.10						T.		3.94
Porterville	Tombigbee			T.	.17	.49			T.											.30				.44	.19	T.						1.59
Shubuta ‖	Chickasawhay			.26	.27	.02				.14											.38	.04			.70							1.81
Tupelo	Tombigbee						.02	1.02			.30	.02	T.																			1.36
Waynesboro ‖	Chickasawhay			.20		T.	.05			1.60			.80					T.		.98	.60	T.			2.73	1.10	T.					8.06

* Precipitation included in that of the next measurement.
† Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations, September, 1911. District No. 2, South Atlantic and east Gulf States.*

Date.	Virginia.								North Carolina.																		South Carolina.	
	Lynchburg.		Norfolk.		Richmond.		Saxe.		Charlotte.		Edenton.		Fayetteville.		Hatteras.		Newbern.§§		Raleigh.		Reidsville.		Salisbury.		Wilmington.		Charleston.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	83	64	80	63	82	58	84	65	86	69	78	60	86	68	80	69	85	63	83	65	85	60	87	65	80	69	87	76
2....	86	60	86	65	85	63	88	61	88	68	85	59	90	66	83	69	89	63	86	64	90	61	89	64	84	72	80	73
3....	89	67	88	71	91	67	88	69	86	69	88	72	90	73	86	76	91	68	88	72	92	67	89	70	88	73	87	76
4....	79	67	78	71	80	66	83	68	83	65	86	68	84	68	83	74	87	67	85	69	86	65	89	68	81	68	87	73
5....	81	68	85	70	84	66	90	71	82	67	86	63	84	66	84	74	88	64	85	66	81	63	80	68	83	67	83	74
6....	88	69	88	72	88	71	91	70	87	67	87	71	90	73	85	74	91	67	87	71	90	66	91	67	90	74	91	72
7....	90	63	85	73	89	68	91	65	89	67	88	68	94	68	86	74	91	69	92	71	95	65	93	66	90	73	85	74
8....	84	67	82	73	86	70	86	68	89	69	87	70	91	69	82	75	89	67	86	69	89	65	92	65	88	72	85	72
9....	84	70	85	73	87	66	86	72	86	68	88	74	89	70	84	74	89	68	88	70	92	65	89	65	87	71	86	75
10....	86	68	82	72	86	69	86	69	90	70	90	76	93	71	86	77	91	66	88	71	93	65	92	67	89	72	89	75
11....	81	66	78	72	73	67	81	71	89	72	87	75	92	72	81	74	82	67	87	71	90	70	91	72	91	70	95	76
12....	87	67	87	68	87	64	90	67	88	69	88	74	93	69	84	72	90	67	90	69	93	65	92	66	89	71	92	74
13....	69	56	73	60	66	52	80	57	82	65	90	68	85	66	77	66	84	62	79	58	89	61	84	64	84	69	88	75
14....	69	49	69	58	70	48	74	48	68	59	86	62	77	56	70	64	78	52	74	52	75	49	74	57	74	58	78	72
15....	81	63	77	60	78	58	83	65	84	63	84	70	88	66	78	62	84	54	84	62	89	62	86	64	82	67	85	77
16....	86	69	86	71	87	67	92	74	91	69	86	72	97	72	82	71	92	62	92	72	95	69	94	68	92	74	91	75
17....	83	60	80	68	82	62	87	64	84	70	84	70	89	69	79	70	86	65	85	68	85	66	85	58	84	70	85	76
18....	77	54	72	63	73	60	85	62	83	64	82	68	89	59	76	68	83	58	79	60	75	49	86	57	81	62	83	71
19....	87	58	79	61	82	62	87	57	88	68	78	53	90	58	76	64	86	54	87	60	92	53	91	64	82	62	85	69
20....	80	65	80	66	75	65	82	67	88	70	81	61	93	68	80	69	91	58	87	68	86	65	91	68	89	69	89	73
21....	68	61	84	70	81	66	78	69	83	69	84	63	90	70	82	72	90	67	83	69	76	64	85	70	87	74	88	74
22....	79	64	77	70	80	66	83	68	82	66	86	68	89	70	82	74	83	69	83	69	84	66	86	64	85	70	84	73
23....	73	59	79	70	78	64	84	69	77	68	84	68	86	70	82	72	87	67	80	69	76	62	79	65	82	70	82	74
24....	81	67	83	69	85	68	87	66	83	68	82	64	87	67	81	72	84	67	86	66	85	67	85	68	82	70	83	75
25....	88	63	86	72	88	68	91	68	86	67	84	68	90	67	82	73	88	65	86	67	91	64	88	66	85	71	84	74
26....	86	66	86	70	87	63	88	69	89	69	88	70	94	68	84	67	91	66	89	70	90	66	91	67	89	70	86	73
27....	76	60	80	65	80	56	80	64	80	66	80	62	87	68	78	71	86	64	83	68	79	63	79	65	82	69	87	74
28....	82	68	79	66	80	65	85	70	92	68	83	68	95	70	84	71	93	65	91	68	94	66	94	62	91	71	90	74
29....	89	52	87	64	88	63	87	62	89	70	84	60	95	70	84	71	91	65	89	68	86	68	91	67	90	74	92	74
30....	76	56	78	60	71	53	81	61	83	68	73	58	84	66	78	64	81	65	79	62	81	62	76	66	82	69	89	76
Mns..	81.8	63.2	81.3	67.5	81.6	63.4	85.3	65.9	85.2	67.6	84.6	66.8	89.4	67.8	81.3	70.8	87.4	64.0	85.4	66.8	86.8	63.3	87.3	65.4	85.4	69.7	86.5	74.0

Date.	South Carolina.														Georgia.													
	Columbia.		Conway.§§		Ferguson.§§		Georgetown.		Greenville.§§		Newberry.		Society Hill.		Albany.§§		Atlanta.		Augusta.		Dahlonega.		Macon.		Rome.§§		Savannah.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	85	71	83	73	82	72	82	74	86	71	86	73	83	68	93	73	89	64	88	72	84	64	92	71	91	63	86	73
2....	90	71	85	72	85	70	81	71	88	65	91	69	86	71	93	74	85	70	87	72	84	68	86	72	90	65	83	74
3....	90	71	89	72	89	69	90	71	90	66	91	70	87	73	92	70	86	68	89	71	87	68	85	71	94	68	90	73
4....	85	72	82	64	87	73	80	73	84	65	83	70	80	68	93	73	82	69	84	73	83	66	87	72	90	69	84	73
5....	84	71	84	68	85	70	83	72	80	66	88	70	84	70	93	71	82	68	88	73	79	68	86	71	87	70	89	73
6....	90	68	92	73	92	70	90	73	86	65	91	67	87	68	94	73	84	69	91	69	84	64	91	72	88	67	89	73
7....	91	71	93	70	89	70	90	73	92	63	92	68	88	70	92	73	90	70	92	72	87	64	93	71	94	68	89	71
8....	92	70	91	70	91	66	90	73	91	64	92	67	88	71	89	72	90	70	90	69	87	63	89	70	95	66	84	71
9....	89	70	94	70	92	67	90	74	90	64	92	68	87	70	94	71	91	72	91	72	88	64	89	72	96	66	87	73
10....	90	72	92	71	91	70	95	74	92	68	94	69	88	72	95	72	90	74	91	72	88	66	90	72	95	68	88	73
11....	93	73	94	72	94	72	95	70	88	71	96	74	90	69	96	72	89	71	93	74	85	67	93	72	94	68	94	73
12....	92	70	94	72	93	71	93	73	89	66	95	69	88	68	94	75	90	69	92	73	87	66	94	70	95	69	93	74
13....	90	69	91	67	92	68	89	69	92	62	93	65	83	60	97	68	91	69	92	69	87	61	96	65	96	66	95	75
14....	73	64	89	64	80	66	80	65	75	60	70	65	71	64	100	73	83	67	80	72	75	64	86	73	90	64	85	76
15..	88	65	89	63	90	67	90	73	84	63	89	65	86	72	96	75	85	66	90	71	83	62	92	75	95	66	85	74
16....	94	72	96	72	96	71	93	73	93	64	96	68	91	71	95	74	89	71	94	72	87	65	94	71	97	66	93	72
17....	88	70	91	72	88	71	85	74	87	67	91	68	84	63	92	71	88	72	91	71	84	67	93	72	90	69	91	74
18....	84	69	88	62	86	65	85	65	78	70	85	72	81	62	86	72	85	69	84	73	83	69	85	72	95	67	84	71
19....	91	70	90	59	90	61	82	73	91	62	94	68	81	68	90	68	87	69	92	71	88	63	91	69	93	68	86	69
20....	90	69	94	71	93	69	90	73	90	63	90	68	87	70	94	70	88	67	89	71	87	65	92	70	92	66	91	71
21....	90	70	88	70	92	71	92	74	91	67	92	68	84	69	94	72	87	70	90	73	86	64	90	69	94	67	90	71
22....	86	69	89	69	88	68	96	73	90	66	87	68	82	69	92	70	86	69	86	70	86	64	90	70	90	68	85	70
23....	83	69	88	71	87	71	84	69	76	66	82	71	83	67	87	69	80	69	85	72	78	68	81	70	90	65	84	72
24....	84	68	85	70	88	69	94	68	88	67	84	67	83	66	85	72	84	67	86	70	80	66	82	69	91	65	84	73
25....	87	69	87	68	85	68	93	69	87	66	88	68	83	67	88	70	79	68	89	71	84	66	86	70	94	65	80	72
26....	90	68	93	68	89	67	93	70	93	64	93	69	87	68	90	72	90	69	90	71	86	62	89	70	94	65	86	71
27....	88	69	89	72	91	68	95	69	90	64	90	68	83	69	91	71	89	73	90	71	88	64	89	70	94	65	88	71
28....	94	71	95	69	94	69	92	73	96	67	95	69	90	71	93	71	91	74	92	70	89	66	89	69	98	66	90	72
29....	92	71	95	73	94	69	83	74	91	67	92	68	91	71	95	70	89	71	91	70	87	63	93	68	96	67	91	71
30....	89	72	90	73	91	72	92	73	93	65	89	69	85	73	95	70	90	71	92	72	87	67	94	71	93	66	94	71
Mns..	88.4	69.8	90.0	69.3	89.5	69.0	88.9	71.6	88.0	65.5	89.7	68.2	85.0	68.6	92.6	71.6	87.0	69.5	89.3	71.4	84.9	65.1	89.6	70.6	93.0	66.6	87.9	72.3

TABLE 3.—*Maximum and minimum temperatures at selected stations, September, 1911. District No. 2*—Continued.

Date.	Georgia.						Florida.																			
	Thomasville.		Waycross. §§		West Point. §§		Avon Park.		Fort Myers.		Gainesville.§§		Jacksonville.		Key West.		Miami.		Orange City.		Orlando.		Pensacola.		Tallahassee.§§		Tampa.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	86	72	94	73	90	65	90	72	89	72	89	69	86	74	89	78	91	80	97	70	93	72	88	74	86	73	93	74
2....	92	71	85	70	88	68	92	72	88	72	91	79	89	74	86	76	89	75	91	74	90	75	85	75	85	71	90	69
3....	91	71	93	69	88	70	95	70	89	70	91	71	90	73	89	77	89	78	95	71	92	70	83	75	83	72	91	70
4....	93	71	93	72	85	69	92	73	87	71	91	69	90	74	88	77	90	75	94	70	91	72	85	74	88	72	92	72
5....	92	71	93	73	87	71	90	71	87	73	91	72	89	75	88	78	86	76	95	70	93	72	87	79	88	72	90	73
6....	94	73	95	73	90	72	92	70	90	73	91	68	94	74	89	76	89	80	96	69	93	70	86	76	90	73	89	73
7....	94	73	95	74	91	69	92	71	88	72	92	71	91	75	89	79	89	79	96	67	95	71	88	77	91	73	93	74
8....	89	72	90	74	90	70	96	73	90	74	92	74	87	75	88	77	90	79	95	70	95	72	88	78	87	73	92	73
9....	93	71	93	70	92	70	89	73	88	73	91	71	89	75	87	77	91	78	91	70	91	73	87	76	87	71	90	73
10....	93	70	96	71	94	70	91	73	90	75	92	70	91	73	87	72	90	77	95	69	92	73	87	77	87	71	92	73
11....	95	73	95	74	93	72	93	72	89	74	92	70	93	75	88	77	90	75	97	70	.....	.....	89	78	90	73	91	75
12....	95	75	97	70	94	73	93	72	89	75	92	72	94	77	89	78	90	75	99	70	94	75	90	75	91	74	90	78
13....	97	71	100	70	96	67	94	69	90	77	95	73	96	75	90	78	92	76	100	75	97	76	93	78	93	73	90	77
14....	97	71	97	70	89	70	89	74	93	75	92	73	91	75	90	76	88	75	93	70	94	72	94	79	91	74	92	74
15....	94	73	95	71	89	70	84	62	89	74	91	72	87	75	88	78	85	80	89	70	.....	.....	89	82	90	74	89	73
16....	92	71	95	71	94	73	89	69	89	71	90	67	89	72	88	77	85	77	92	63	91	67	88	77	91	72	89	69
17....	95	71	97	73	96	72	93	66	89	68	95	71	94	72	86	76	85	71	99	66	95	68	89	77	91	73	91	73
18....	87	71	87	72	87	69	89	71	90	72	88	72	84	73	88	75	91	70	91	71	89	72	89	76	87	70	88	71
19....	90	67	88	67	91	69	86	69	87	72	88	69	84	68	88	77	86	74	86	60	86	65	87	73	88	68	87	70
20....	93	70	94	69	90	69	91	72	87	72	91	66	90	72	87	76	89	70	92	64	94	71	88	72	91	70	90	70
21....	93	72	95	70	90	70	93	71	90	73	90	69	90	73	89	78	88	71	90	64	91	68	89	78	91	72	91	72
22....	92	71	90	69	90	69	90	69	89	68	92	69	89	73	89	78	87	73	91	64	93	67	91	76	90	72	90	71
23....	88	69	88	72	85	68	91	73	86	72	92	71	86	73	89	79	88	74	89	68	89	71	85	69	88	72	91	71
24....	88	70	89	70	84	70	91	69	88	68	89	70	85	73	89	79	88	80	87	69	87	69	84	69	87	70	89	70
25....	87	71	92	69	85	69	91	72	86	72	92	71	90	74	87	73	88	79	91	68	89	71	86	75	83	71	90	73
26....	89	70	93	70	90	69	91	72	85	72	86	70	87	74	86	79	87	72	82	69	88	70	88	74	87	71	88	72
27....	90	70	94	69	90	68	91	72	85	70	90	70	88	72	86	74	87	73	86	68	89	71	84	75	88	70	89	72
28....	92	68	96	69	92	67	89	72	87	70	91	71	88	72	88	76	88	78	85	68	90	70	87	77	90	71	89	73
29....	92	69	95	66	93	70	93	70	88	72	90	68	90	71	89	78	88	80	91	65	92	67	87	79	91	71	91	72
30....	94	72	98	71	90	71	91	68	87	72	94	68	94	73	89	79	86	75	94	64	93	66	87	74	90	73	90	72
Mns..	91.9	71.0	93.4	70.7	90.1	69.6	91.0	70.7	88.3	72.1	91.0	70.5	89.5	73.5	88.1	76.9	88.3	75.8	92.3	68.2	[b]91.6	[b]70.6	87.6	75.8	88.7	71.8	90.2	72.4

Date.	Alabama.																Mississippi.							
	Anniston.		Bermuda.		Birmingham.		Eufaula.§§		Mobile.		Montgomery.		Tuscaloosa.§§		Uniontown.		Columbus.§§		Hattiesburg.§§		Jackson.		Meridian.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	88	60	95	66	89	60	93	66	90	73	91	66	92	60	91	64	89	60	96	70	92	64	87	61
2.....	90	66	97	67	91	68	91	70	84	76	94	69	96	61	94	64	96	62	88	72	92	70	90	64
3.....	88	69	89	71	89	70	91	71	84	73	89	70	94	68	83	62	94	66	94	66	88	70	82	69
4.....	87	68	91	68	88	69	88	70	85	73	90	69	95	68	88	68	92	70	92	68	92	70	87	70
5.....	83	68	92	71	85	71	90	69	86	73	88	72	90	68	91	65	94	72	95	71	95	72	88	72
6.....	86	68	93	72	88	70	89	70	87	74	90	71	94	70	93	65	93	70	94	71	97	73	89	70
7.....	91	67	94	70	90	69	91	68	90	75	91	69	95	69	95	65	95	70	98	70	97	70	91	72
8.....	92	69	96	70	90	72	90	69	91	75	91	73	97	71	96	65	96	69	99	72	97	72	91	71
9.....	91	68	96	71	92	72	90	70	90	75	91	72	95	71	94	65	97	70	98	71	96	70	90	69
10.....	92	68	96	71	92	71	90	69	90	76	93	72	94	71	94	66	97	71	99	72	97	72	91	72
11.....	91	69	92	70	90	71	92	69	90	78	94	73	98	71	93	65	95	70	97	73	97	72	92	72
12.....	91	69	97	70	91	71	94	70	94	77	91	74	96	71	97	66	97	72	99	71	98	73	95	74
13.....	94	68	97	68	96	72	96	65	96	76	95	70	98	72	100	65	99	73	97	73	100	73	96	73
14.....	91	67	99	70	96	72	94	68	94	74	96	74	99	72	98	66	101	72	99	67	99	73	95	72
15.....	91	70	94	69	91	74	93	71	89	78	93	76	97	73	95	66	97	70	97	67	96	69	92	70
16.....	91	68	96	68	91	71	94	70	89	76	93	73	96	71	93	67	97	70	96	70	97	72	92	72
17.....	88	70	95	70	93	73	97	68	90	75	94	73	98	71	96	67	98	70	98	71	96	72	92	72
18.....	91	67	95	70	91	71	85	68	92	72	91	71	95	72	99	59	98	71	98	70	98	70	92	73
19.....	90	67	96	68	88	70	89	68	89	71	93	72	94	71	99	70	91	71	96	71	96	72	92	70
20.....	89	65	94	69	88	68	90	67	88	70	91	71	93	70	93	70	93	70	97	68	96	70	90	69
21.....	90	67	93	69	89	70	89	68	92	73	91	74	95	69	94	70	94	69	97	64	93	68	90	70
22.....	88	65	97	69	89	66	88	68	94	74	92	72	93	69	94	70	91	67	94	70	93	68	90	68
23.....	86	68	93	70	90	68	83	66	90	73	90	71	95	67	92	68	94	63	95	68	90	68	90	67
24.....	87	69	88	65	89	68	83	66	85	71	87	70	90	69	90	68	95	65	97	70	89	67	87	67
25.....	89	69	88	68	91	70	85	68	90	72	88	70	93	69	96	60	95	67	94	71	94	67	87	67
26.....	92	65	92	69	93	69	87	68	91	73	92	71	96	69	95	62	97	67	95	68	94	69	90	68
27.....	93	65	91	68	93	72	87	66	93	75	91	71	96	68	94	68	99	66	94	69	96	69	91	68
28.....	93	67	93	67	94	72	88	66	89	77	93	71	96	69	95	68	99	66	96	69	94	68	91	68
29.....	92	72	93	68	92	71	89	67	89	76	94	74	96	69	97	68	99	66	99	71	96	69	92	69
30.....	93	67	91	67	93	71	90	67	90	75	93	72	98	70	93	66	98	69	98	70	96	72	91	71
Means.....	89.9	67.5	93.8	69.0	90.7	70.1	89.9	68.2	89.7	74.3	91.7	71.5	95.1	69.3	94.1	65.9	95.7	68.5	96.2	69.8	95.0	70.0	90.4	69.7

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1911.

DISTRICT NO. 3, OHIO VALLEY.

FERDINAND J. WALZ, District Editor.

GENERAL SUMMARY.

September, 1911, was an unusually warm month over the entire Ohio Valley. The unusual warmth was especially pronounced over the section south of the Ohio River, where the temperature averaged higher, except in Kentucky, than for any September of record. In Kentucky it was the warmest September, with one exception, in the past 23 years, and also unusually wet. Over the States north of the Ohio River and over western Pennsylvania, western Maryland, and most of West Virginia the month was not only unusually warm, but also extraordinarily wet. In fact, it was the wettest September in most of these States of which there is any record. Excessive rains occurred over large portions of this extensive area, the heaviest being in the Wabash Basin of Illinois and Indiana, the Mahoning and Muskingum Valleys in Ohio, and in the lower basin of the Monongahela, Beaver, and Allegheny Rivers in western Pennsylvania. In Illinois the total rainfall was not only greater than for any previous September, but is the greatest amount occurring in that State in any single month for which there is authentic record.

A great deal of damage was occasioned by these unseasonable and extraordinary rainfalls. Still, on the other hand, they were not without benefit, for, particularly in the Wabash Basin, where they were greatest, they effectually broke the serious drought that had prevailed over that section during the preceding 8 to 10 weeks.

It is rather unusual that both temperature and rainfall for September should be in excess. Usually abnormally warm Septembers are dry and the unseasonably wet Septembers cool. Records in this district during the past quarter of a century show but few exceptions to this general rule. As a whole the month was favorable in all parts of the district, the rains and warm weather greatly benefiting pastures and late crops, while the superabundance of rain replenished streams and revived water sources, which had become much depleted.

The conditions as to temperature and rainfall, which obtained in the various portions of the district during September, 1911, are shown in the following table:

Portions of States lying within district No. 3.	Mean temperature in degrees Fahrenheit.	Departure from normal.	Mean precipitation in inches.	Departure from normal.	Greatest 24-hour precipitation in inches.
New York	61.3	+2.8	5.16	.....	1.40
Pennsylvania	65.8	+1.8	7.13	+4.20	4.09
Maryland	63.7	+2.7	5.87	+3.66	2.00
West Virginia	69.1	+3.4	4.77	+1.95	3.78
Ohio	68.2	+2.1	5.20	+2.57	4.12
Indiana	70.6	+3.3	6.34	+3.66	5.45
Illinois	71.2	+3.3	8.44	+5.04	3.71
Kentucky	74.3	+3.8	3.71	+1.13	3.32
Tennessee	76.4	+5.9	2.52	−0.56	2.50
Alabama	78.4	+5.2	1.86	−1.29	1.75
Georgia	74.2	+5.0	3.10	−1.20	1.36
North Carolina	70.9	+6.3	3.63	+0.19	5.50
Virginia	68.6	+4.2	2.77	−0.46	2.10

TEMPERATURE.

The temperature averaged above normal for the month of September at every station in the district except two or three, the departures ranging between +2° and +8°. The greater excesses, as a rule, occurred over the southern half of the district, while the lesser were in the northeastern section. At many stations in Kentucky, Tennessee, North Carolina, and Virginia the temperature averaged the highest of any September of record. The average temperature of the State of Tennessee was nearly 2° higher than that of any previous September and nearly 13° higher than the coolest September of record. In several of the States in the southern portion of the district the September temperature averaged higher than for either of the two midsummer months preceding.

The abnormally high average temperature was the result rather of continuously high minimum temperatures, that is, warm nights rather than extremely high day temperatures. At none of the regular Weather Bureau stations located on or south of the Ohio River, other than those in Pennsylvania and West Virginia, did the temperature go below 50°. At Knoxville and Chattanooga, Tenn., the minimum temperature of the month was 63° and 64°, respectively. In fact, at a large number of the stations in the district the lowest temperature of this month was the highest monthly minimum temperature of record for September.

The mean daily temperature was above normal at quite a few of the stations in the southern portion of the district every day during the entire month. It was above normal at all stations in the district on at least 24 to 26 days out of the 30, the daily excesses ranging from +2° to +16°. The accentuated warm periods for the district as a whole were the 1st to 11th, 16th to 18th, and the 23d to 28th. During these periods maximum temperatures of from 85° to 95° were experienced more or less generally, while on a few of the days maxima of 96° to 98° were registered at some stations in most of the States. The righest temperature of the month was 103°, registered at Cedar Hill, Tenn., on the 28th, and the next highest, 100°, at Weston, W. Va., on the 7th, and at Cedar Hill, Tenn., on the 27th.

The cool periods, while three in number, were not coincident in the various parts of the district. They were the 13th to 14th, when the average daily temperature ranged from 2° to 13° below normal, and minimum temperatures ranged from 30° to 45° in the north central and northeastern parts of the district; the 20th to 22d, when average temperatures were slightly below normal over the northern and central portions of the district, but no low minimum temperatures occurred; and the 30th, when average temperatures were from 2° to 8° below normal, and minimum temperatures registered from 40° to 56° over the northern sections of the district. In Illinois and Indiana the lowest temperature of the month was reached

on the 30th, but in other sections of the district considerably lower temperatures were registered earlier in the month and mostly during the cool weather of the 13th and 14th. Frost occurred in New York, Pennsylvania, Maryland, West Virginia, and Ohio on the 13th and 14th, but there was little damage.

PRECIPITATION.

Unseasonably heavy rains for the season of the year occurred during the month over all the northern and a considerable portion of the central sections of the district. The total precipitation of the month was above normal at all stations in Illinois, Indiana, Ohio, western Pennsylvania, and western Maryland; at all stations except 3 or 4 in West Virginia, and at a majority of the stations in Kentucky. Over these areas the amounts at the various stations ranged between 4 and 15 inches. The heaviest rainfall occurred over the Wabash watershed in Illinois and Indiana, and eastward over southern Indiana into the lower watersheds of the Miami Rivers in southwestern Ohio. At many stations in this extensive area the monthly rainfall ranged between 7 and 15 inches, or from 5 to 12 inches above the usual amount for September. The section director at Springfield, Ill., says:

> The month presented the most remarkable rainfall conditions ever recorded in Illinois during the month of September. The least amount was 3.79 inches at Carmi, while in a group of seven or more counties in the central part of the State the amounts exceeded 10 inches, culminating in a maximum of 14.6 inches at Sumner, Lawrence County. These amounts were 6 to 10 inches above the normal. The least precipitation occurred in the southern counties. In the above-mentioned region of heavy rainfall and over the remainder of the district to the northward, all September records for heavy rainfall were broken. At Olney, Paris, Robinson, and Urbana the rainfall exceeded that of any month of any year, and also at Palestine and Philo, with but one exception. The average rainfall for the State, 8.84 inches, is not only the record amount for September, but is the greatest State average ever recorded in any month of any year.
>
> Farm crops have suffered greatly. At the close of the month all streams were at flood stage or out of their banks. The observer at Paris states that the rivers were higher than within at least 10 years. In the river bottoms much of the corn and cowpea crops are ruined, in some places being buried in the mud. In Richland County only about 10 per cent of the land is subject to overflow, but in the vicinity of Sumner, Lawrence County, the bottom land is the main corn territory. On the uplands the corn was blown down in many sections by some severe wind squalls that occurred during the month, as much as 50 per cent being down in some places. Corn that is lying on the ground is rotting or sprouting and all corn is damaged. In Lawrence County the corn has suffered 25 per cent to 30 per cent on the uplands. Broom corn, tomatoes, and other crops have suffered also. Plowing, and planting of wheat have been much delayed. The floods caused damage to roadbeds and bridges. Mail service was discontinued on some rural routes out of Olney.

Excessive rainfalls, second in importance only to those occurring in the Wabash region and neighboring sections mentioned above, occurred over the watershed of the upper Ohio River and its headwater tributaries. Over this section, which includes western Pennsylvania, extreme eastern Ohio and northwestern West Virginia, the rainfall of the month amounted to from 5 to 10 inches.

In Kentucky the rainfall varied considerably, ranging in amount from 0.4 inch at Bowling Green in the southwestern part of the State to 7.5 inches at Scott in the north central portion. The rainfall in Tennessee and the northern portions of Georgia and Alabama averaged below normal for the month, although at some few stations in those areas amounts somewhat above normal were received. In southwestern Virginia rainfall was deficient over the headwaters of the Kanawha and in the Holston Valley, but a moderate excess occurred elsewhere. Some heavy local rains occurred in extreme southwestern North Carolina, but over the rest of western North Carolina rainfall was slightly deficient.

During the first three or four days of the month there were only a few scattered and unimportant showers in the district, but on the 4th and 5th a general storm spread over the district, attended by rains which were heavy in many of the sections. Rain continued almost daily over the district from Tennessee northward and over the eastern sections from the 5th until the 22d. On several days during this period rains were very heavy and general in the northern and eastern portions of the district. Rains were again more or less heavy, but not so general, in the period 25th to 30th, inclusive. They were quite heavy, however, in portions of Indiana, Illinois, Ohio, and Pennsylvania on one or two days in that period.

The following heavy rainfalls are worthy of note: 3.71 inches in 24 hours at Smithfield, W. Va., on the 14th and 15th; 4.09 inches at Greenville, Pa., on the 15th; 4.12 inches at Wooster, Ohio, on the 15th; 4.09 inches at Marion and 4.41 inches at Logansport, Ind, on the 15th; and 5.45 inches at Columbus, Ind., on the 16th. Finally, at Brevard, N. C., 5.50 inches fell between 2 a. m. and 10 a. m. on the 23d.

MISCELLANEOUS.

Thunderstorms, attended by wind squalls, destructive lightning, and hail, were unusually frequent for the month of September in the Ohio Valley. Considerable damage was caused by these storms in various parts of the district, but particularly in the States north of the Ohio River and in Kentucky.

September 3: A boy was killed and 15 persons were stunned by lightning at Louisville, Ky., also two residences and the customhouse were struck by lightning, and many windows were broken and gardens damaged by hail in that city and vicinity.

September 14–16: In this period a great many destructive storms occurred over the central, northern, and eastern portions of the district. In Ohio there were at least a dozen houses and barns struck and burned by lightning and some 6 or 8 head of horses and cattle were killed. In Indiana several persons were injured by lightning, 3 school buildings were struck and injured, the post-office building at Terre Haute was slightly damaged, and a number of residences and 12 or 15 barns were reported to have been struck. Many of the barns were completely destroyed, with their contents. Also in the same State 8 horses, 3 mules, and 12 cows were killed. In Illinois high winds did considerable damage during one or more of these storms to orchards, growing corn, and buildings. On the 15th several head of horses and cattle were killed by lightning in that State, and during the night of the 12th–13th a terrific hailstorm passed over Ford County, Ill., doing great and widespread damage. It was one of the most destructive hailstorms that has visited Illinois in many years. On the afternoon of the 15th a severe local thunderstorm did considerable damage at the State fairgrounds at Louisville, Ky., while the fair was in session. Also, the day, being extremely warm and sultry, 28 persons were prostrated from heat on the fairgrounds. A church at La Grange, Ky., was struck by lightning and damaged. On the 13th high winds caused considerable local damage at Waynesville, N. C.

September 28: Two barns were struck by lightning; 12 horses, 2 cows, and a number of head of hogs were killed and several persons shocked; and a church struck and damaged in Indiana.

September 29: One man and three horses were killed, while another man and a child were badly injured by lightning that struck a barn near Owensboro, Ky.

Rivers and streams.—The heavy rains about the 9th caused rapid rises in the small streams in the upper watershed of the Ohio Valley, particularly in Pennsylvania and portions of West Virginia and Ohio, but, while the small streams became bank full, larger streams were not affected to any great extent and little or no damage was occasioned. The heavy rains of the 14th to 16th, however, caused rapid rises and bank-full stages in the larger as well as the smaller streams of the States of Pennsylvania, West Virginia, Ohio, and Indiana, and a great deal of damage occurred in those States from flooding of lowlands and the destruction of bridges and washing out of roads. In western Pennsylvania the property loss amounted to about half a million dollars. Most of this damage, however, was from smaller streams, very little of it being occasioned by the Ohio River itself. Flood warnings were issued by the Pittsburgh office and 500 campers, taking advantage of these warnings, moved off the islands along the Allegheny River, and the constructors of dams and bridges along the Ohio River were cautioned to protect their works, with the result that very little damage occurred other than the flooding of cofferdams, etc. At Pittsburgh the Buffalo, Rochester & Pittsburgh Railroad suspended operations on account of high water on the north side for about 18 hours and the Pennsylvania Railroad for about 12 hours. In West Virginia the Little Kanawha and the upper Ohio Rivers were bank full and considerable damage was done in the river bottoms to corn and other crops growing in those fertile bottoms.

In Ohio many streams of the upper Ohio and Muskingum watersheds overflowed and did considerable damage to lowlands. Scores of bridges were destroyed on the Muskingum; corn and late crops were washed away and many sheep and cattle drowned. Traffic on electric and steam railroads and wagon roads was delayed considerably by washouts, and the destruction of bridges; also a number of manufacturing plants along the various streams were damaged or had to suspend operations temporarily.

In Illinois and Indiana the heavy rains in the middle of the month caused rapid rises in the streams, but there was very little damage done, the streams being at unusually low stages. The heavy rains of the 28th–29th, however, caused some overflowing of streams and some damage in the bottom lands of Indiana and southeastern Illinois.

The Cumberland River was at a low stage and nearly stationary during the month, navigation being closed, except that permissible on account of dams. On the Tennessee River navigation remained closed throughout the entire month.

In Kentucky several of the rivers, especially the Kentucky River, reached good stages due to the heavy rains during the month, but at no time were they threatening in any way.

ENGINEERING NOTES.

The work in the development of the water power of the Ocoee and Tennessee Rivers in Tennessee is progressing rapidly. The completion of this work with the electricity generating plants will mean much to that whole section of country and especially to the cities of Chattanooga and Cleveland, Tenn.

The first dam to be completed is on the Ocoee and is located at Parksville, Polk County, Tenn. Work was started on this dam in August, 1910, and it is expected that it will be completed with the power plant by January 1, 1912. The dam is of the gravity type of cyclopian concrete with spillway 110 feet above low-water mark. The nonoverflow portion of the dam, below which the power house is located, will be 130 feet above bedrock. The building of the dam will cause the water to rise and form a lake about 8 miles long and cover an area of more than 2,000 acres. A second lake will be formed by building a dam across a narrow gorge on Baker Creek, at the head of the first lake and about 9 miles to the east. This second lake will also cover about 2,000 acres. The water from it will be carried by means of a tunnel through Frog Mountain to a power house which will be built about 6 miles below. There a fall of about 600 feet will be utilized, giving about 60,000 horsepower. The two plants working together will develop about 85,000 horsepower for manufacturing and other purposes.

Thirty 9-foot special wicket-gate water turbines mounted on a horizontal shaft and hydroelectric machinery of the very best and latest pattern are to be installed.

The generation and distribution of power has been laid out on a unit basis. The power will be conveyed to manufacturing centers by the three-phase high-tension lines carrying 66,000 volts. This will be stepped down to 2,300 or 4,000 volts at various points as desired. There will be built immediately 130 miles of transmission lines, and later this will be increased to about 300 miles as the field develops.

Transforming stations will be located at Cleveland, Chattanooga, Knoxville, and at a number of other places, with auxiliary stations at Cleveland and Chattanooga. The general offices of the company, the Eastern Tennessee Power Co., are to be located at Cleveland, Tenn., where also will be the central switching station.

TABLE 1.—*Climatological data for September, 1911. District No. 3, Ohio Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
New York.																				
Allegany	Cattaraugus	1,441	5	61.3	.....	86	2	32	14	36	5.16	.....	1.40	0	13	12	10	8	nw.	Charles E. Whitney.
Bolivar	Allegany	1,800	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. O. Newton.
Olean	Cattaraugus	.....	3	.....	.....	.....	.....	.....	.....	.....	4.36	.....	0.98	0	15	15	8	7	w.	John W. Alles.
Pennsylvania.																				
Aleppo	Greene	1,135	10	67.6	+ 2.3	88	8	37	14	38	6.02	+ 3.60	1.65	0	8	13	11	6	w.	J. S. Hinerman.
Baldwin	Butler	1,404	5	64.6	.....	84	2	43	13†	30	7.77	.....	3.00	0	7	9	9	8	w.	S. H. Templeton.
Beaver Dam	Beaver	674	17	.....	.....	.....	.....	.....	.....	.....	6.86	+ 4.36	2.94	0	12	.....	.....	.....	ne.	U. S. Engineer.
Brookville	Jefferson	1,173	20	63.2	.....	88	8†	30	13	57	7.36	+ 4.09	2.15	0	12	.....	.....	.....	.....	H. C. Bartholomew.
Clarion	Clarion	1,078	26	.....	.....	.....	.....	.....	.....	.....	7.44	+ 3.86	2.96	0	7	11	4	15	s.	J. A. Miller.
Claysville	Washington	1,127	7	69.3	.....	92	8	38	14	40	4.84	.....	1.54	0	11	11	13	6	w.	E. T. Buchanan.
Confluence	Somerset	1,352	27	.....	.....	.....	.....	.....	.....	.....	6.91	+ 4.05	1.55	0	14	4	4	22	w.	Grant Pyle.
Franklin	Venango	955	37	64.0	0.0	86	3	34	14	36	6.66	+ 2.97	2.21	0	11	16	2	12	w.	F. E. Dixon.
Freeport	Armstrong	772	38	.....	.....	.....	.....	.....	.....	.....	8.71	+ 6.01	2.94	0	11	.....	.....	.....	.....	Mrs. Anna R. Burtner.
Greensboro	Green	768	22	.....	.....	.....	.....	.....	.....	.....	6.36	+ 3.52	1.80	0	12	10	5	15	s.	James G. Cramer.
Greenville	Mercer	950	15	64.0	+ 2.0	88	2	33	14	39	7.41	+ 4.14	4.09	0	8	21	2	7	nw.	A. M. Orr.
Indiana	Indiana	1,350	14	67.6	+ 3.4	88	2†	37	14	37	8.41	+ 4.85	2.25	0	12	15	9	6	nw.	R. W. Wehrle.
Johnstown	Cambria	1,184	23	68.0	+ 2.6	89	7†	40	14	36	6.35	+ 2.79	2.62	0	16	12	11	7	sw.	E. C. Lorentz.
Lock No. 4	Washington	718	25	.....	.....	.....	.....	.....	.....	.....	6.31	+ 3.61	1.54	0	13	.....	.....	.....	s.	R. T. McGowan.
Lycippus	Westmoreland	1,420	19	67.8	+ 1.0	85	2	42	14	30	9.73	+ 7.09	3.15	0	12	.....	.....	.....	.....	Murray Forbes.
Pittsburgh	Allegheny	842	41	68.0	+ 1.9	86	8	45	14	26	6.36	+ 3.88	2.38	0	13	10	13	7	nw.	U. S. Weather Bureau.
Saegerstown	Crawford	1,116	20	63.2	+ 1.2	86	2	32	14	42	7.08	+ 3.32	2.54	0	12	5	12	13	nw.	J. G. Apple.
Skidmore	Lawrence	1,000	7	65.8	.....	88	2	34	14	35	5.80	.....	2.25	0	6	26	1	3	s.	W. H. Stoner.
Somerset	Somerset	2,250	55	65.0	+ 4.4	90	3	32	14	46	10.18	+ 7.07	3.25	0	10	3	24	3	ne.	W. M. Schrock.
Uniontown	Fayette	999	23	68.3	+ 2.3	86	8	42	14	33	7.00	+ 3.91	1.29	0	13	5	15	10	.....	Wm. Hunt.
Warren	Warren	1,137	22	60.8	+ 1.4	88	3	32	14	40	6.27	+ 2.49	2.00	0	11	14	0	16	s-nw.	Anna Simpson.
Maryland.																				
Deer Park	Garrett	2,457	17	64.8	+ 4.5	95	2	30	14	49	5.65	+ 3.36	1.82	0	12	.....	.....	.....	.....	S. P. Specht.
Grantsville	do	2,351	17	62.7	+ 1.0	82	8	34	14	31	6.38	+ 3.97	2.00	0	9	10	14	6	.....	J. S. Miller.
Oakland	do	2,461	11	63.5	.....	82	2†	32	14	36	5.58	.....	1.87	0	12	13	13	4	w.	R. E. Weber.
West Virginia.																				
Bancroft	Putnam	574	10	73.5	.....	93	8	46	14	39	3.84	+ 1.75	1.16	0	8	16	0	14	ne.	James Hill.
Beckley	Raleigh	2,440	12	68.2	+ 4.9	88	12	40	16	44	2.54	+ 0.53	1.28	0	5	8	17	5	w.	John A. Ewart.
Bens Run	Pleasants	622	10	70.7	+ 2.4	91	8	45	14	32	3.10	+ 0.80	0.63	0	11	23	5	2	.....	J. D. Riggs.
Bluefield	Mercer	2,563	17	70.1	+ 3.9	86	3†	47	14	29	3.76	+ 1.06	0.71	0	10	15	6	9	.....	Norfolk & Western Ry.
Buckhannon	Upshur	1,472	20	67.2	+ 2.4	88	8	38	14	38	6.16	+ 3.26	2.02	0	9	18	5	7	.....	H. A. Darnall.
Cairo	Ritchie	667	10	71.6	+ 3.9	95	10†	50	13	33	4.32	+ 1.86	1.25	0	8	2	20	8	s.	Van A. Zevely.
Central Station	Doddridge	900	11	67.8[g]	+ 1.4	92[a]	8	37[a]	...	38[g]	4.55	+ 1.65	.....	0	...	7[g]	11[g]	5[g]	sw.	G. W. Sherwood.
Charleston	Kanawha	598	24	73.6	.....	90	8†	47	14	32	3.15	+ 0.30	1.00	0	9	15	12	3	w.	R. C. Hewes.
Creston	Wirt	612	11	70.6	+ 3.0	90	8	43	14	33	5.48	+ 3.28	2.13	0	11	14	5	11	w.	J. M. Reed.
Cuba	Jackson	544	10	70.4	+ 3.1	91	8	43	14	34	6.22	+ 4.20	1.60	0	11	9	19	2	w.	C. T. Perry.
Elkhorn	McDowell	1,933	19	69.5	+ 3.2	87	4†	47	14	31	4.75	+ 2.06	1.75	0	8	14	15	1	sw.	J. J. Lincoln.
Elkins	Randolph	1,940	13	66.7	+ 4.9	87	8	39	14	38	6.87	+ 4.00	2.69	0	15	8	14	8	n.	U. S. Weather Bureau.
Fairmont	Marion	879	18	71.3	.....	92	3†	46	30	42	4.37	+ 1.87	0.97	0	12	.....	.....	.....	s.	H. Glenn Fleming.
Glenville	Gilmer	738	22	71.4	+ 4.0	93	8	41	14	39	5.50	+ 2.24	1.62	0	10	13	4	13	.....	John Holt.
Grafton	Taylor	985	18	70.2	+ 3.6	92	8	41	14	37	5.44	+ 2.73	1.90	0	13	15	14	1	.....	John W. Snider.
Green Sulphur Springs	Summers	1,600	16	69.8	+ 3.6	87	8	41	14	34	2.03	− 0.14	0.52	0	10	11	11	8	w.	Arthur George.
Hinton	Summers	1,400	21	72.8	+ 4.8	93	8	50	14	37	1.80	− 1.23	0.42	0	12	15	5	10	sw.	J. B. Lavender.
Huntington	Cabell	510	17	71.2	+ 2.4	86	7†	48	14	30	2.64	+ 0.39	0.82	0	8	11	5	14	w.	L. H. Hutchinson.
Lewisburg	Greenbrier	2,200	11	67.8	+ 3.0	86	8	41	14	31	2.05	− 0.70	0.69	0	7	21	6	3	nw.	George T. Argabrite.
Logan	Logan	665	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. C. Ragland.
Lost Creek	Harrison	1,033	15	67.7	+ 2.0	92	8	38	14	39	6.15	+ 3.37	1.81	0	12	16	6	8	w.	Allen Smith.
Madison	Boone	704	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. E. Bradley.
Mannington	Marion	967	10	67.6	.....	90	8	40	14	35	5.99	+ 2.83	2.00	0	17	16	7	7	w.	Jas. A. Morgan.
Marlinton	Pocahontas	2,169	17	69.1[h]	+ 6.9	89	7	38	15	37[h]	3.61	+ 0.66	1.02	0	...	11[h]	9[h]	2[h]	.....	C. J. McCarty.
Morgantown	Monongalia	1,250	36	69.5[a]	+ 1.5	89	8	42	14	35[a]	5.73	+ 2.63	1.52	0	10	12[a]	9[a]	8[a]	s.	Horace Atwood.
Moundsville	Marshall	640	10	70.5	+ 2.8	90	7	42	14	39	6.31	+ 3.74	1.28	0	10	18	2	10	sw.	M. L. Brown.
New Cumberland	Hancock	987	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Frank S. Evans.
New Martinsville	Wetzel	634	18	70.8	+ 2.0	91	7	44	14	33	5.67	+ 3.20	1.40	0	13	20	6	4	s.	Wm. Ankron.
Nuttallburg	Fayette	2,252	18	60.0[b]	.....	78	2†	43	15†	32[b]	4.47	+ 2.14	1.40	0	5	17[b]	8[b]	3[b]	.....	Miss Donna Tully.
Parkersburg	Wood	638	24	70.4	+ 4.2	90	8	48	14	29	3.89	+ 1.17	1.73	0	14	6	11	13	sw.	U. S. Weather Bureau.
Parsons	Tucker	1,662	12	66.8	+ 3.3	89	8	37	14	39	4.50	+ 1.58	0.90	0	7	8	15	7	.....	J. W. Swisher.
Philippi	Barbour	1,192	18	69.0	+ 3.5	90	8	41	14	37	4.24	+ 1.17	1.42	0	18	12	15	3	w.	J. D. Dadisman.
Pickens	Randolph	2,785	20	64.2	.....	81	8	38	14	34	8.30	+ 4.94	1.71	0	9	16	7	7	w.	Dr. J. L. Cunningham.
Pineville	Wyoming	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. V. Senter.
Point Pleasant	Mason	553	21	73.2	+ 3.4	98	8	43	14	39	4.10	+ 1.92	1.90	0	12	13	4	13	se.	W. D. Holmes.
Powellton	Fayette	904	14	71.2	+ 4.5	91	8	45	14	36	5.97	+ 3.54	1.62	0	...	6[f]	17[f]	1[f]	.....	Morris Hansford.
Princeton	Mercer	2,469	10	64.8	+ 2.7	80	2	46	14	30	4.15	+ 0.21	1.50	0	10	12	16	2	w.	H. Scott.
Robertsburg	Putnam	574	11	71.8	+ 2.9	96	8	44	14	36	4.09	+ 1.60	1.68	0	11	8	0	22	.....	E. P. Turley.
Ryan	Roane	639	8	69.8	.....	92	8	40	14	40	4.77	.....	1.03	0	12	6	17	7	.....	Wm. E. Ryan.
Smithfield	Wetzel	919	8	66.2	.....	88	29	42	14	29	7.89	.....	3.78	0	9	14	7	9	n.	G. M. Whisler.
Spencer	Roane	710	13	66.8	.....	90	7†	42	14	36	6.54	+ 3.58	1.56	0	11	0	24	6	.....	A. M. McKown.
Sutton	Braxton	839	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. E. Baughman.
Terra Alta	Preston	3,207	12	59.6	.....	80	7	38	14	32	7.75	+ 4.53	2.35	0	11	9[e]	8	13	sw.	C. F. Dodge.
Union	Monroe	.....	7	68.0	.....	87	8	41	14	35	2.06	.....	0.44	0	10	.....	.....	.....	.....	Shelton Clark.
Valley Fork	Clay	.....	9	.....	.....	.....	.....	.....	.....	.....	6.78	.....	1.00	0	11	10	18	2	.....	Miss Blanche Pierson.
Webster Springs	Webster	1,500	7	69.6	.....	89	7	38	14	42	6.06	.....	1.20	0	15	7	15	8	w.	D. H. Hamrick.
Wellsburg	Brooke	1,225	12	66.6	+ 1.6	82	8	44	14	26	6.20	+ 3.54	2.09	0	10	11	12	7	w.	C. P. Waugh.
Weston	Lewis	824	21	70.9[a]	+ 3.6	100[a]	7	48[a]	14	46[a]	5.52	+ 2.55	1.68	0	14	4	12	14	sw.	Miss C. M. Davis.
Wheeling	Ohio	645	26	69.0	.....	90	2	44	14	33	4.39	+ 1.86	0.93	0	11	15	8	7	s.	Miss M. B. Forsyth.
Williamson	Mingo	660	11	74.6	+ 4.4	93	4†	53	30	35	2.48	− 0.54	0.96	0	8	17	9	4	w.	J. F. Keyser.
Ohio.																				
Amesville	Athens	630	7	70.5	.....	92	7†	41	14	36	5.88	.....	1.73	0	13	13	13	4	.....	F. W. Gibson.
Bangorville	Richland	1,380	24	66.4	+ 1.4	86	2†	43	14	29	4.32	+ 1.26	1.45	0	11	6	21	3	sw.	S. M. Painter.
Bellefontaine	Logan	1,276	32	67.0	+ 0.8	85	1†	45	30	30	4.66	+ 1.90	1.63	0	8	11	15	4	ne.	Cory L. Lane.
Bladensburg	Knox	1,100	20	65.4[e]	+ 0.8	85	2	40	14	33	3.70	+ 0.92	1.50	0	8	9[e]	15[e]	1[e]	w.	Miss Mary Elliott.
Cadiz	Harrison	1,245	8	67.8	.....	87	2†	43	14	28	5.95	.....	2.09	0	12	10	11	9	sw.	Harry B. McConnell.
Cambridge	Guernsey	803	19	66.8	+ 1.6	88	2	41	15	35	6.78	+ 4.50	2.26	0	8	11	16	3	.....	Samuel Mehaffey.
Camp Denison	Hamilton	570	18	71.0	+ 1.8	91	2†	45	30	36	6.75	+ 4.80	2.24	0	11	13	12	5	ne.	Henry F. Pinkvoss.
Canal Dover	Tuscarawas	884	18	65.9	+ 1.9	86	2†	39	14	32	6.92	+ 4.28	2.95	0	10	12	14	4	sw.	Ed. S. Slingluff.
Canton	Stark	1,089	28	66.6	+ 2.6	87	24	39	14	32	4.50	+ 1.65	2.63	0	11	14	6	10	sw.	Carl H. Meyer.
Cardington	Morrow	1,010	16	68.0	+ 2.7	88	1	45	14	37	4.28	+ 1.04	1.46	0	7	.....	.....	.....	se.	J. W. Shaw.
Chillicothe	Ross	630	8	.....	.....	.....	.....	.....	.....	.....	5.67	.....	3.80	0	7	.....	.....	.....	.....	Marion Mackey.

TABLE 1.—*Climatological data for September, 1911. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Ohio—Continued.																				
Cincinnati	Hamilton	628	40	72.0	+ 3.0	90	2	52	30	29	7.52	+ 5.21	2.87	0	12	6	17	7	se.	U. S. Weather Bureau.
Circleville	Pickaway	694	23	70.8	+ 2.8	92	8	47	14†	33	4.25	+ 1.97	0.85	0	12	12	7	11	sw.	Mrs. S. W. Courtright.
Clarington	Monroe	600	8	68.8	.....	90	7†	42	14	36	6.42	.....	2.50	0	13	6	14	10	sw.	Col. S. Tschappat.
Columbus	Franklin	918	33	68.8	+ 2.9	88	8	47	30	26	5.98	+ 3.46	2.09	0	13	10	10	10	e.	U. S. Weather Bureau.
Coshocton	Coshocton	770	2	.....	.....	.....	.....	.....	.....	.....	5.86	.....	1.95	0	7	.....	.....	.....	.....	Mrs. Ada Jeffries.
Dayton (1)	Montgomery	899	....	69.8	.....	88	2	48	30	27	4.19	.....	1.38	0	11	8	12	10	sw.	U. S. Weather Bureau.
Dayton (2)	....do.	790	30	70.0[a]	+ 2.6	91	2†	44	30	34	4.20	+ 1.63	1.12	0	10	.....	.....	.....	.....	Mrs. Edith L. Boyer.
Delaware	Delaware	927	14	68.2	+ 2.1	89	1	45	14	36	4.16	+ 1.48	1.02	0	10	14	6	10	sw.	Prof. L. L. Hudson.
Demos	Belmont	1,325	23	68.2[a]	+ 2.4	87[a]	8	41[a]	13	32	6.30	+ 3.44	1.58	0	11	18[a]	9	2	s.	J. T. Dysart.
Dennison	Tuscarawas	846	1	69.4	.....	89	7†	41	14	36	6.77	.....	3.73	0	8	11	16	3	n.	Water Supply Co.
Frankfort	Ross	750	19	70.7	+ 3.7	91	7	44	14	33	4.07	+ 1.78	0.95	0	8	15	9	6	sw.	O. A. Cory.
Garrettsville	Portage	1,005	27	63.6	+ 2.1	86	2	33	14	38	6.18	+ 2.73	2.11	0	11	10	10	10	nw.	S. M. Luther.
Granville	Licking	960	29	68.4	+ 3.0	88	2	45	14	36	5.11	+ 2.22	1.25	0	10	13	1	16	sw.	Dr. L. E. Davis.
Gratiot	....do.	1,000	22	67.1	+ 1.6	85	2	44	14	28	5.03	+ 2.27	1.32	0	12	12	16	2	n.	W. B. Longstreth.
Green	Adams	500	18	72.4	+ 3.7	91	8	47	30	38	4.35	+ 1.85	1.55	0	7	5	8	17	w.	W. F. Kenyon.
Green Hill	Columbiana	1,135	17	63.6	+ 0.3	84	2	36	14	34	4.62	+ 1.97	2.49	0	7	10	18	2	sw.	Jos. E. Bentley.
Greenville	Darke	1,060	25	67.3	+ 2.6	87	2	45	30	29	5.45	+ 2.83	1.10	0	11	7	9	14	s.	Geo. A. Katzenberger.
Haydensville	Hocking	700	....	68.1	.....	88	7†	40	30	33	4.65	.....	0.96	0	12	18	5	7	sw.	H. W. Stiers.
Hillsboro	Highland	1,063	32	70.2	+ 1.8	91	7	44	30	33	5.82	+ 3.16	1.86	0	9	8	17	5	sw.	Carey H. Roush.
Ironton	Lawrence	575	28	72.8	+ 5.1	95	8	46	14†	33	3.63	+ 0.94	1.06	0	11	14	11	5	sw.	James Bull.
Jacksonburg	Butler	975	43	70.2	+ 1.7	91	2	44	30	32	4.73	+ 2.13	1.30	0	8	18	6	6	sw.	Dr. J. B. Owsley.
Kenton	Hardin	1,015	19	66.3[b]	− 0.5	87[b]	1†	40[b]	14	38	3.90	+ 1.65	2.02	0	7	11[b]	9[b]	8[b]	n.	N. S. Martin.
Killbuck	Holmes	1,087	19	67.2	+ 2.4	87	1†	40	14	35	6.47	+ 3.73	3.40	0	9	17	9	4	ne.	Lloyd C. Schonauer.
Lancaster	Fairfield	898	16	68.8	+ 2.3	86	2†	47	14†	30	5.06	+ 2.93	1.07	0	12	14	8	8	sw.	R.L. Renshaw.
McConnelsville	Morgan	710	27	68.9	+ 2.4	87	2†	43	14	32	4.13	+ 1.29	1.16	0	11	10	12	8	s.	C. H. Morris.
Marietta	Washington	627	91	69.9	+ 4.4	88	7†	44	14	31	3.70	+ 0.56	1.25	0	12	10	14	6	n.	Prof. T. D. Biscoe.
Marion	Marion	980	33	68.8	+ 2.1	90	1	44	14	36	3.59	+ 0.55	1.32	0	7	9	13	8	nw.	Dr. E. H. Raffensperger.
Milfordton	Knox	1,200	19	67.4	+ 2.4	88	6	40	14	34	3.32	+ 0.65	1.65	0	8	18	8	4	sw.	L. H. Burgess.
Milligan	Perry	875	18	68.4[c]	+ 2.2	89	2†	42[c]	30	37	5.96	+ 3.75	1.41	0	9	11	16	3	n.	V. C. Eveland.
Millport	Columbiana	1,145	18	65.2	+ 1.4	86	2	37	14	33	4.85	+ 2.44	2.24	0	9	8	17	5	sw.	G. F. Copeland.
Nellie	Coshocton	850	11	66.0	+ 0.8	87	2	40	14	35	5.32	+ 2.92	1.75	0	10	9	15	6	n.	Ethel L. Gamertsfelder.
New Alexandria	Jefferson	1,050	26	68.2	+ 2.8	89	5†	39	12	40	6.15	+ 3.48	2.00	0	8	17	4	9	w.	Mrs. Mary K. Pennell.
New Berlin	Stark	1,100	18	64.9	− 0.4	85	1†	37	14	35	4.83	+ 2.22	3.12	0	7	19	7	4	n.	Clayton Holl.
New Waterford	Columbiana	1,053	16	65.6	+ 1.8	87	2	36	14	38	6.69	+ 4.27	2.60	0	6	13	14	3	sw.	Sam. C. Scott.
Ohio State University	Franklin	757	28	68.2	+ 2.9	88	2	46	30	31	5.15	+ 2.57	1.19	0	11	9	14	7	s.	Prof. H. C. Lord.
Pataskala	Licking	1,015	19	67.6	+ 1.4	87	2	45	14	29	7.18	+ 4.39	2.10	0	13	6	21	3	sw.	J. N. Ridenour.
Peebles	Adams	645	1	67.9	.....	97	4	36	14	44	5.98	.....	2.65	0	7	15	13	2	e.	Ora O. Smalley.
Philo	Muskingum	1,018	16	68.8	+ 1.4	88	2	45	14	30	5.41	+ 2.96	1.18	0	12	12	12	6	sw.	L. C. Burckholter.
Piqua	Miami	847	1	.....	.....	.....	.....	.....	.....	.....	6.36	.....	1.20	0	10	10	2	18	ne.	Harry L. Roberts.
Plattsburg	Clark	1,130	18	68.0	+ 0.9	86	1†	42	30	36	4.86	+ 2.40	1.19	0	9	11	8	11	sw.	F. E. Stewart.
Portsmouth	Scioto	527	80	71.2	+ 3.4	89	7†	41	30	30	4.24	+ 1.55	1.90	0	9	8	0	22	sw.	Dr. H. A. Shirrman.
Prospect	Marion	909	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Neil J. Gast.
Rittman	Wayne	990	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gish.
Shenandoah	Richland	1,100	19	65.2	+ 0.8	86	2	41	14	34	3.36	+ 0.51	1.42	0	10	6	19	5	n.	T. B. Arnett.
Sidney	Shelby	985	28	69.0[a]	+ 3.0	90[a]	2	47	30	35	4.35	+ 1.33	1.66	0	10	10	9	11	sw.	Hamline B. Blake.
Somerset	Perry	1,080	12	69.5	+ 2.0	89	2†	46	14†	30	4.40	+ 2.26	1.00	0	11	14	11	5	n.	Miss M. W. C. Sheridan.
Springfield	Clark	980	17	.....	.....	.....	.....	.....	.....	.....	6.79	+ 4.02	1.24	0	11	6	22	2	s.	W. A. Webster.
Summerfield	Noble	1,187	5	67.5[c]	.....	90[c]	8	40[c]	14	37	4.64	.....	1.29	0	12	8	20	2	sw.	H. R. McClintock.
Syracuse	Meigs	583	1	72.1	.....	94	8	45	13	34	5.34	.....	1.44	0	10	10	15	5	e.	E. G. Campbell.
Thurman	Gallia	696	18	71.0	+ 1.1	90	7	43	13	31	3.71	+ 2.01	1.50	0	6	6	22	2	.....	D. D. Thomas.
Urbana	Champaign	1,031	43	67.9	+ 2.6	89	2	45	30	34	6.72	+ 3.53	1.27	0	10	11	16	3	sw.	Prof. J. H. Williams.
Warren	Trumbull	900	22	65.8	+ 1.6	88	2	37	14	36	7.29	+ 4.35	2.85	0	10	17	3	10	sw.	M. D. McCorkle.
Waverly	Pike	590	28	70.0	+ 1.6	90	8	43	14	31	6.86	+ 4.38	2.58	0	13	9	0	21	ne.	Dr. Peru Hutt.
Waynesville	Warren	700	26	69.0[b]	+ 2.2	86[b]	1†	48[b]	14†	29	5.67	+ 3.18	1.05	0	9	9[b]	15[b]	4[b]	w.	Chas. Michener.
Wooster	Wayne	1,030	32	65.1	+ 1.4	87	2	37	14	33	6.53	+ 3.14	4.12	0	8	14	10	6	nw.	Experiment Station.
Youngstown	Mahoning	846	18	.....	.....	.....	.....	.....	.....	.....	5.96	+ 3.08	3.20	0	9	17	1	12	w.	G. R. Patton.
Zanesville	Muskingum	700	24	.....	.....	.....	.....	.....	.....	.....	5.83	+ 3.38	1.80	0	11	12	3	15	s.	S. G. Sprague.
Indiana.																				
Anderson	Madison	892	16	69.1	+ 2.3	90	1†	43	30	33	4.14	+ 1.10	1.20	0	12	10	15	5	ne.	W. H. Stanton.
Attica	Fountain	522	1	.....	.....	.....	.....	.....	.....	.....	6.04	.....	1.01	0	15	.....	.....	.....	.....	Robt. E. Ray.
Bloomington	Monroe	744	16	71.0	+ 2.7	89	1†	47	30	33	9.63	+ 6.94	3.26	0	16	8	7	15	sw.	Earl E. Ramsey.
Bluffton	Wells	835	16	69.2	+ 3.5	90	1†	44	30	36	3.99	+ 0.66	1.90	0	13	13	14	3	sw.	Tom R. Johnston.
Butlerville	Jennings	767	26	71.6	+ 3.2	92	4	47	30	32	8.69	+ 5.95	3.62	0	15	12	9	9	w.	C. F. Hole.
Cambridge City	Wayne	941	20	68.6	+ 3.6	91	1†	41	30	41	3.56	+ 0.20	0.90	0	13	12	1	17	ne.	Charles Lemberger.
Columbus	Bartholomew	632	28	70.4	+ 3.2	91	1†	44	30	36	10.63	+ 7.61	5.45	0	14	9	6	15	sw.	John A. Perry.
Connersville	Fayette	769	29	70.5	+ 4.9	91	1†	46	30	38	4.67	+ 1.85	1.20	0	7	4	21	5	sw.	H. T. Swindler.
Crawfordsville	Montgomery	780	1	70.2	.....	94	2	43	30	39	4.02	.....	0.96	0	12	9	11	10	w.	P. H. Burns.
Delphi	Carroll	668	26	68.4	+ 3.4	94	2	43	30	40	5.11	+ 2.13	1.40	0	16	7	11	12	.....	L. A. Higginbotham.
Eminence	Morgan	782	5	69.2	.....	92	2	47	20†	38	7.42	.....	1.50	0	11	8	16	6	w.	R. E. Kelso, M. D.
Evansville	Vanderburg	386	35	75.4	+ 5.7	92	14	57	20†	26	3.25	+ 0.59	1.41	0	10	7	20	3	s.	U. S. Weather Bureau.
Farmersburg	Sullivan	.....	13	70.7	+ 1.8	93	2	49	30	41	10.90	+ 8.40	2.07	0	12	4	21	5	sw.	Maurice Yeager.
Farmland	Randolph	1,101	29	67.4	− 1.4	87	2	45	30	29	5.04	+ 1.57	1.83	0	10	7	0	23	ne.	W. J. Davisson.
Greenfield	Hancock	905	8	70.4	.....	92	3	45	30	32	4.84	.....	1.45	0	10	0	22	8	se.	Frank Larrabee.
Greensburg	Decatur	954	15	69.8	+ 1.2	88	1†	45	30	31	8.24	+ 5.23	1.85	0	11	12	15	3	w.	C. C. Morrison, M. D.
Huntingburg	Dubois	462	3	74.1	.....	95	18	52	21†	34	6.40	.....	1.40	0	8	.....	.....	.....	.....	H. Dufenbach.
Huntington	Huntington	741	18	67.9	+ 6.0	90	2	44	30	33	4.37	+ 1.32	0.90	0	11	11	10	9	w.	Chas. McGrew.
Indianapolis	Marion	822	40	69.9	+ 3.2	90	2	49	30	27	4.67	+ 1.62	1.36	0	14	7	12	11	s.	Section Center.
Jeffersonville	Clark	455	29	73.8	+ 4.3	91	7†	54	22	31	3.98	+ 1.42	1.15	0	12	7	16	7	w.	John C. Loomis.
Judyville	Warren	.....	4	68.0[c]	.....	91[c]	2	40[c]	30	38[c]	6.62	.....	1.25	0	16	10[d]	3[d]	13[d]	se.[d]	Dale R. Warrick.
Kokomo	Howard	840	19	67.4	+ 4.9	88	1†	41	21	35	4.48	+ 1.77	1.10	0	11	13	12	5	sw.	P. H. Robertson.
Lafayette	Tippecanoe	617	32	67.9	+ 1.9	92	2	45	22†	35	4.83	+ 1.96	1.24	0	18	16	4	10	ne.	Wm. J. Jones, jr.
Laurel	Franklin	.....	1	69.2	.....	89	1†	46	30	38	5.65	.....	1.75	0	9	18	1	11	e.	Burch Schultze.
Logansport	Cass	620	31	68.8	+ 2.8	96	2	45	20†	41	7.40	+ 4.33	4.41	0	11	12	4	14	w.	Chas. Massena.
Madison	Jefferson	460	19	74.1	+ 3.5	95	12†	51	30†	35	5.56	+ 2.99	1.30	0	10	11	11	8	sw.	Miss F. Cooperider.
Marengo	Crawford	363	29	71.9	+ 3.0	91	7†	48	22	40	4.34	+ 0.33	1.70	0	9	13	11	6	sw.	J. M. Johnson.
Marion	Grant	814	25	67.8	+ 2.0	89	1†	41	30	34	6.34	+ 3.25	4.09	0	13	11	4	15	s.	James F. Hood.
Mauzy	Rush	980	31	69.8	+ 4.9	91	2	44	30	35	4.85	+ 1.96	1.37	0	9	7	15	8	sw.	Elwood Kirkwood.
Monticello	White	674	1	.....	.....	.....	.....	.....	.....	.....	5.34	.....	1.68	0	12	13	6	11	.....	J. E. Loughry.
Moores Hill	Dearborn	980	10	70.5	+ 1.7	90	1†	45	30	32	11.23	+ 8.07	3.08	0	14	18	4	8	e.	W. S. Bigney.
Mount Vernon	Posey	410	25	74.4	+ 3.7	93	15	55	22†	30	3.64	+ 0.89	1.09	0	11	17	2	11	sw.	Guy B. Green.
Paoli	Orange	611	14	72.4	+ 3.3	93	3	46	22	37	7.69	+ 4.31	1.45	0	15	11	14	5	sw.	James A. Gillum.
Princeton	Gibson	481	29	74.8	+ 6.1	96	18	53	24	36	4.83	+ 1.64	1.46	0	11	14	12	4	sw.	Albert Mills.
Richmond	Wayne	972	26	68.4	+ 2.7	89	1†	43	30	37	2.98	+ 0.28	0.80	0	11	8	18	4	.....	Walter Vossler.
Rochester	Fulton	775	6	67.0	.....	86	2	46	30	24	4.01	.....	1.04	0	13	11	5	14	.....	G. P. Keith.
Rockville	Parke	722	25	69.6	+ 2.5	91	2	46	30	30	8.38	+ 5.37	2.07	0	16	10	5	15	e.	Dr. W. N. Wirt.
Rome	Perry	370	8	76.6	.....	97	8†	54	22	36	3.84	.....	1.20	0	10	17	9	4	sw.	Adam Anspach.
Salamonia	Jay	.....	6	67.1[c]	.....	88[c]	1†	40[c]	30	35[c]	4.81	.....	1.21	0	11	8[b]	1[b]	19[b]	sw.[b]	Chas. V. Skinner.
Salem	Washington	717	18	71.8	+ 3.1	91	2†	48	22	36	6.61	+ 3.98	1.85	0	14	7	19	4	w.	Emmet S. Allen.
Scottsburg	Scott	570	17	73.5	+ 3.8	90	2†	54	23	29	4.80	+ 2.35	1.01	0	10	8	14	8	e.	Frank H. Park.

TABLE 1.—*Climatological data for September, 1911. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Indiana*—Continued.**																				
Seymour	Jackson	610	24	72.6	+ 4.5	94	1†	49	30	38	8.25	+ 5.35	2.06	0	12	3	25	2	nw.	J. Robt. Blair.
Shelbyville	Shelby	768	7	70.6	.....	91	2	47	30	36	7.27	.....	1.60	0	14	9	17	4	sw.	Edgar G. Hodson.
Shoals	Martin	523	4	.....	.....	.....	.....	.....	.....	.....	9.27	.....	1.93	0	14	.....	.....	.....	.....	Rev. G. Halleck Rowe.
Terre Haute	Vigo	498	21	71.4	+ 2.0	93	2	47	30	37	11.20	+ 8.42	2.58	0	14	16	6	8	sw.	Prof. R. G. Gillum.
Veedersburg	Fountain	612	12	70.4	+ 2.0	93	2	42	30	37	4.38	+ 1.82	0.90	0	17	13	10	7	e.	L. A. Culver, jr.
Vevay	Switzerland	525	30	73.1	+ 3.5	89	2	52	30	27	8.85	+ 5.90	3.20	0	11	3	15	12	sw.	Miss Frederica Boerner.
Vincennes	Knox	431	19	73.2	+ 2.5	96	2†	52	30	36	14.80	+11.74	2.30	0	15	11	2	17	s.	Garrett V. List.
Washington	Daviess	484	15	73.0	+ 3.5	92	18	51	22	32	10.51	+ 7.25	2.55	0	12	14	7	9	sw.	Chas. C. Feagans.
Whitestown	Boone	529	3	67.8	.....	89	1	44	30	36	4.86	.....	0.83	0	16	6	23	1	sw.	Clyde O. Laughner
Winona Lake	Kosciusko	865	4	67.4	.....	93	2	42	30	36	4.60	.....	1.00	0	14	5	14	11	e.	Rev. Albert A. Young.
Worthington	Greene	526	29	72.2	+ 5.0	93	2	50	30	34	7.95	+ 4.99	1.67	0	12	8	18	4	sw.	D. W. Solliday.
Illinois.																				
Albion	Edwards	531	20	74.1	+ 4.2	96	15	53	22	32	4.08	+ 1.05	1.55	0	15	11	14	5	s.	B. F. Michels.
Carmi	White	399	.....	.....	.....	.....	.....	.....	.....	.....	3.79	.....	0.70	0	12	17	0	13	se.	Daniel Berry.
Charleston	Coles	720	26	70.4	+ 1.7	92	1†	47	20†	33	10.25	+ 7.14	2.49	0	14	7	9	14	s.	Jacob B. Daisy.
Danville	Vermilion	604	10	70.4	.....	93	2	45	30	37	5.91	+ 2.57	1.64	0	14	13	5	12	se.	J. J. Lemon.
Equality	Gallatin	421	13	76.8	+ 4.7	95	12†	52	22	37	5.07	+ 1.98	1.57	0	14	9	19	2	s.	Dr. L. W. Gordon.
Fairfield	Wayne	495	18	74.4	+ 4.1	95	14†	50	22	37	6.80	+ 3.45	2.27	0	15	17	0	13	nw.	George A. Tromly.
Flora	Clay	495	25	73.1[b]	+ 4.9	96[a]	2†	49[a]	22	38[b]	9.82	+ 6.65	2.88	0	14	13	10	7	se.	Joseph S. Peak.
Golconda	Pope	500	33	76.6	+ 4.9	95	12†	52[a]	22	34[a]	4.75	+ 1.59	1.25	0	11	12	14	4	sw.	Dr. D. Lawrence.
Hoopeston	Vermilion	715	9	67.6	+ 1.6	90	2	43	30	31	7.28	+ 3.52	1.76	0	18	16	5	9	.....	S. F. Hoskinson.
McLeansboro	Hamilton	462	28	76.4	+ 6.6	96	12	52	23	37	6.19	+ 3.10	1.00	0	11	17	8	5	e.	Mrs. Mary E. Robinson.
Metropolis	Massac	346	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. N. McCartney.
Montrose	Effingham	599	11	71.3	+ 2.3	95	1†	48	20†	41	13.64	+10.17	2.72	0	14	12	16	2	sw.	J. C. Spitler.
Mount Carmel	Wabash	424	10	72.4	.....	93	2†	55	20†	33	5.44	+ 2.11	1.08	0	16	.....	.....	.....	.....	Mrs. H. M. Phillips.
New Burnside	Johnson	556	16	74.8	+ 2.6	94	12†	47	22	35	5.45	+ 2.47	1.62	0	13	10	10	10	.....	Thomas H. McCabe.
Olney	Richland	486	24	73.8	+ 4.0	95	2	52	22	34	12.23	+ 8.87	3.23	0	12	8	11	11	sw.	Victor E. Phillips.
Palestine	Crawford	500	29	73.0	+ 5.3	95	2	50	30	35	11.52	+ 8.18	2.62	0	13	9	8	13	s.	Duane Shaw.
Paris	Edgar	600	18	69.4	+ 0.6	92	2	45	30	35	11.43	+ 8.05	3.35	0	11	7	19	4	sw.	H. P. Twyman.
Philo	Champaign	700	27	69.2	+ 3.2	91	1†	45	30	36	8.92	+ 5.74	2.02	0	14	22	0	8	se.	H. A. Burr.
Rantoul	....do.	768	20	68.1	+ 1.4	92	1†	42	30	34	7.91	+ 4.24	1.87	0	15	16	1	13	sw.	William Breiner.
Robinson	Crawford	500	11	73.0	+ 3.4	94	2	51	20†	31	12.52	+ 8.48	2.40	0	13	15	5	10	se.	A. P. Woodworth.
Sumner	Lawrence	459	5	72.8	.....	90	2	51	23	30	14.60	.....	3.71	0	14	13	8	9	n.	O. A. Fyffe.
Tuscola	Douglas	644	18	69.2[a]	+ 1.9	94	2†	45[a]	30	35[a]	9.27	+ 5.73	2.40	0	12	13	5	12	sw.	E. W. Lester.
Urbana	Champaign	725	9	67.8	+ 1.6	90	2	43	30	28	8.90	+ 5.70	2.72	0	15	4	16	10	sw.	Prof. J. G. Mosier.
Kentucky.																				
Alpha	Clinton	.....	17	74.9	+ 4.2	91	8	56	1	30	1.85	− 1.42	0.60	0	5	18	8	4	s.	W. W. Hicks.
Anchorage	Jefferson	700	10	71.8	+ 2.9	92	3	49	22	33	2.96	+ 0.19	0.74	0	11	13	10	7	sw.	C. E. Barrett.
Bardstown	Nelson	637	14	75.6	+ 3.8	97	4	51	22	34	3.13	+ 0.44	0.90	0	8	13	1	16	se.	G. M. Talbott.
Beattyville	Lee	650	7	73.2	.....	95	7†	50	30	39	4.76	.....	1.86	0	9	6	11	13	w.	G. W. Cann.
Beaver Dam	Ohio	441	8	75.8	.....	95	14†	50	22	33	4.99	.....	3.32	0	5	12	6	12	se.	T. S. Woodward.
Berea	Madison	1,070	10	74.6	+ 5.4	93	8	55	20†	31	4.08	+ 1.36	0.90	0	7	20	6	4	sw.	C. F. Rumold.
Bowling Green	Warren	500	22	76.6	+ 4.6	97	18	52	22	36	0.40	− 2.66	0.12	0	5	15	3	12	s.	Mrs. L. G. Causey.
Burnside	Pulaski	773	20	.....	.....	.....	.....	.....	.....	.....	3.68	+ 0.42	1.14	0	8	17	4	9	.....	G. M. Estes.
Calhoun	McLean	397	8	77.0	.....	96	18	54	22†	36	2.27	.....	0.67	0	8	7	21	2	sw.	W. A. Taylor.
Catlettsburg	Boyd	544	22	.....	.....	.....	.....	.....	.....	.....	3.08	+ 0.61	1.00	0	9	19	3	8	.....	Mrs. Mertie M. Bruns.
Earlington	Hopkins	370	21	76.9	+ 6.4	99	18	49	22	41	3.69	+ 0.64	1.07	0	9	19	1	10	nw.	J. B. Atkinson.
Edmonton	Metcalfe	600	20	76.4	+ 6.7	95	4	54	22	38	2.19	− 1.16	0.90	0	10	14[b]	11[b]	3[b]	s.	Miss Lee Ray.
Eubank	Pulaski	1,177	17	72.8	+ 4.3	90	8	54	1†	33	3.02	− 0.40	0.75	0	6	7	11	12	s.	Mrs. Katie Payne.
Falmouth	Pendleton	530	22	.....	.....	.....	.....	.....	.....	.....	3.44	+ 1.47	1.10	0	10	12	9	9	.....	J. V. Oldham.
Farmers	Rowan	668	5	72.1	.....	94	7†	46	12	35	3.36	.....	1.00	0	9	12	2	16	w.	Miss Gertrude Sorrell.
Frankfort	Franklin	560	20	73.0	+ 4.4	88	7†	54	22	29	3.05	+ 0.21	0.63	0	12	9	10	11	e.	J. H. Roberts.
Franklin	Simpson	691	17	77.0	+ 5.6	96	28	52	22	35	1.52	− 2.14	1.32	0	4	1	29	0	sw.	J. E. Newman.
Greensburg	Green	581	19	73.6	+ 3.6	95	4	51	13†	41	4.60	+ 1.63	1.15	0	13	10	0	20	se.	L. C. Alcorn.
High Bridge	Jessamine	762	8	.....	.....	.....	.....	.....	.....	.....	5.18	+ 2.07	1.86	0	9	19	4	7	.....	Miss Lulu Wood.
Hopkinsville	Christian	524	15	77.2	+ 5.5	97	14	54	22	37	3.45	+ 0.41	1.15	0	6	12	3	15	e.	W. F. Randle.
Irvington	Breckinridge	.....	13	73.6	+ 2.7	90	14†	53	22	28	5.79	+ 2.96	2.10	0	10	14	6	10	sw.	W. J. Piggott.
Leitchfield	Grayson	635	15	73.8	+ 4.2	90	14	54	22	26	5.51	+ 1.88	1.50	0	10	11	15	4	sw.	John E. Stone.
Lexington	Fayette	989	23	72.5	+ 4.6	90	7	52	30	32	4.37	+ 1.95	1.22	0	12	5	11	14	sw.	U. S. Weather Bureau.
Loretto	Marion	681	14	74.6	+ 4.0	92	3	49	22	35	4.17	+ 1.49	1.30	0	9	20	7	3	.....	Loretto Academy.
Louisville	Jefferson	525	40	74.9	+ 5.0	92	14	56	30	32	4.66	+ 2.03	1.26	0	13	9	12	9	sw.	U. S. Weather Bureau.
Marion	Crittenden	.....	16	75.9	+ 4.0	94	18	54	22	30	3.67	+ 0.63	1.39	0	8	10	14	6	sw.	B. C. Paris.
Maysville	Mason	524	14	72.2	+ 2.0	95	7†	48	14	38	5.31	+ 2.62	1.36	0	13	13	5	12	nw.	Mrs. Mary D. Marsh.
Middlesboro	Bell	1,128	16	75.2	+ 6.9	94	8	53	30	31	3.51	+ 0.86	1.25	0	14	14	16	0	.....	B. H. Perkins.
Mount Sterling	Montgomery	930	21	72.2	+ 4.6	90	2†	52	14†	33	4.57	+ 1.68	1.09	0	12	13	9	10	s.	James O'Connell.
Owensboro	Daviess	479	14	74.8	+ 4.2	93	14†	53	24	33	1.52	− 1.29	0.54	0	9	11	7	12	se.	Henry S. Berry.
Paducah	McCracken	341	22	.....	.....	.....	.....	.....	.....	.....	3.38	+ 0.39	1.36	0	12	19	0	11	s.	S. A. Fowler.
Paintsville	Johnson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. L. Atkinson.
Pikeville	Pike	.....	3	.....	.....	.....	.....	.....	.....	.....	2.92	.....	1.00	0	8	11	1	18	.....	I. M. Williams.
Richmond	Madison	926	19	74.7	+ 4.1	93	8	54	30	32	4.41	+ 1.77	1.72	0	9	15	5	10	.....	J. W. Crooke.
St. John	Hardin	777	15	73.6	+ 4.7	92	18†	50	22	32	3.45	+ 0.36	0.87	0	10	19	1	10	.....	Bethlehem Academy.
Scott	Kenton	.....	13	71.7	+ 1.7	91	7	53	14	29	7.46	+ 4.98	1.92	0	14	9	15	6	s.	E. B. Wilson.
Shelby City	Boyle	1,087	17	73.4	+ 3.6	98	7	50	24	40	4.84	+ 2.09	1.28	0	11	21	5	4	sw.	H. F. Ewing.
Shelbyville	Shelby	759	22	73.8	+ 4.3	96	3	51	14†	38	4.99	+ 2.10	1.10	0	11	9	11	10	sw.	C. R. Burnett.
Taylorsville	Spencer	489	9	73.0	+ 4.3	90	7†	51	22	31	3.61	+ 0.21	1.07	0	12	8	15	7	sw.	E. D. Bourne.
Williamsburg	Whitley	939	15	76.2	+ 5.9	95	2†	52	30	35	3.24	+ 0.10	1.40	0	7	20	1	9	e.	Noble C. Jones.
Williamstown	Grant	943	9	70.8	+ 1.8	89	7	48	30	32	6.38	+ 3.29	1.94	0	13	15	7	8	.....	Mrs. Sarah E. Carter.
Tennessee.																				
Ashwood	Maury	725	32	76.9	+ 6.2	94	27†	54	23	34	1.72	− 1.94	0.62	0	5	6	19	5	s.	Mrs. Joseph W. Fleming.
Benton	Polk	880	26	77.2	+ 6.1	94	8†	61	12	32	4.95	+ 1.92	1.35	0	7	6	23	1	nw.	George L. Williams.
Bird's bridge	Greene	.....	5	.....	.....	.....	.....	.....	.....	.....	2.40	.....	0.82	0	8	11	7	12	w.	David B. George.
Bluff City	Sullivan	.....	14	.....	.....	.....	.....	.....	.....	.....	2.29	− 0.56	0.90	0	8	14	4	12	.....	John W. Fisher.
Byrdstown	Pickett	1,026	18	76.0	+ 5.6	92	8†	58	1†	32	1.79	− 1.52	1.10	0	5	7	13	10	s.	John Lacy.
Carthage	Smith	500	27	78.8	+ 7.5	99	27	58	22†	36	1.58	− 1.65	0.65	0	6	19	6	5	sw.	Earl C. Pickering.
Cedar Hill	Robertson	625	11	79.4	+ 6.6	103	28	51	22	37	2.09	− 1.10	1.50	0	6	19	11	0	s.	J. Frank Ruffin.
Celina	Clay	494	8	.....	.....	.....	.....	.....	.....	.....	2.83	.....	0.92	0	7	.....	.....	.....	.....	Stephen B. Anderson.
Center Point	Chester	400	14	.....	.....	.....	.....	.....	.....	.....	2.14	− 0.66	0.66	0	6	28	1	1	s.	Halbert H. Bailey.
Charleston	Bradley	709	14	.....	.....	.....	.....	.....	.....	.....	4.31	+ 0.73	1.95	0	12	18	5	7	s.	John T. Weeks.
Chattanooga	Hamilton	808	32	77.8	+ 6.6	92	28	64	23	26	2.97	− 0.28	1.72	0	9	11	15	4	sw.	U. S. Weather Bureau.
Clarkesville	Montgomery	500	48	75.4	+ 5.4	97	2†	54	23	37	1.18	− 1.74	0.48	0	8	12	16	2	.....	Prof. James A. Lyon.
Clinton	Anderson	800	23	.....	.....	.....	.....	.....	.....	.....	1.59	− 1.22	0.35	0	7	24	0	6	sw.	
Dandridge	Jefferson	.....	7	.....	.....	.....	.....	.....	.....	.....	2.12	.....	1.10	0	3	20	2	8	w.	James E. Swann.
Decatur	Meigs	850	15	77.8	+ 6.9	95	27†	60	23†	35	1.94	− 1.77	1.19	0	12	9	21	0	s.w.	J. Worth Lillard.
Dickson	Dickson	800	15	76.6	+ 5.1	93	27	54	22	30	3.26	+ 0.81	1.29	0	8	11	19	0	s.	Nathan R. Sugg.
Dover	Stewart	500	16	76.3	+ 4.0	96	27	53	22	39	1.89	− 1.16	0.67	0	4	16	11	3	s.	Asa M. Tippit.
Dunlap	Sequatchee	726	2	77.6	.....	97	27	58	1	38	4.35	.....	1.33	0	8	10	19	1	.....	S. Bradford Boyd.

TABLE 1.—*Climatological data for September, 1911. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observer
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Tennessee—Continued.																				
Elizabethton	Carter	1,575	21	.....	.....	.....	.....	.....	.....	.....	2.26	− 0.41	0.80	0	9	21	6	3	e.	Charles Boyd.
Erasmus	Cumberland	1,850	14	71.6	+ 5.3	91	27	49	23	38	1.22	− 2.23	0.36	0	9	11	19	0	sw.	Mrs. Sara E. Ashley.
Florence	Rutherford	560	29	76.6	+ 5.3	92	28	56	23	30	2.19	− 1.29	0.84	0	6	17	11	2	s.	Erastus P. Bell.
Franklin	Williamson	648	21	76.2	+ 4.9	92	16	56	23	29	1.50	− 2.05	0.65	0	5	17	5	8	.....	Young M. Rizer.
Halls Hill	Rutherford	.....	9	.....	.....	.....	.....	.....	.....	.....	1.74	.....	1.00	0	4	20	0	10	s.	Ed F. Wright.
Harriman	Roane	841	16	77.4	+ 7.1	95	9	60	1	30	3.65	+ 0.66	1.23	0	8	7	23	0	.....	Robert R. Ayres.
Hohenwald	Lewis	983	25	76.2	+ 6.4	93	14	53	23	32	4.03	+ 0.91	1.54	0	9	14	15	1	w.	John Lutzelman.
Iron City	Lawrence	600	14	80.4	+ 8.5	95	14†	62	1†	27	3.94	+ 0.11	1.25	0	8	4	26	0	nw.	Capt. H. Paul Seavy.
Jefferson City	Jefferson	.....	1	.....	.....	.....	.....	.....	.....	.....	1.24	.....	0.42	0	8	.....	.....	.....	.....	Calvin C. Maddox.
Johnson City	Washington	1,620	.....	75.7	+ 7.8	97	3	59	14†	34	1.51	− 1.06	0.53	0	8	8	12	10	w.	Ward Crosby.
Johnsonville	Humphreys	364	15	77.6	+ 5.4	95	12†	54	22†	35	5.00	+ 1.78	2.20	0	8	19	8	3	s.	Miss Sallie B. Matthews.
Kingston	Roane	.....	20	.....	.....	.....	.....	.....	.....	.....	1.98	− 1.65	1.08	0	7	16	0	14	n.	Henry Crumbliss.
Knoxville	Knox	977	40	77.1	+ 7.7	92	8	63	27	27	1.89	− 0.92	0.98	0	8	8	15	7	ne.	U. S. Weather Bureau.
Lebanon	Wilson	522	2	77.2	.....	94	27	56	22†	34	2.70	.....	1.15	0	10	14	9	7	n.	H. Logan Fields.
Lewisburg	Marshall	727	16	78.5	+ 7.0	97	27†	55	23	37	3.01	− 0.69	1.48	0	8	17	12	1	s.	Dr. Robert D. Crutcher.
Livingston	Overton	1,065	.....	76.6	.....	96	28	54	1	36	1.15	.....	0.55	0	3	13	17	0	.....	L. H. Carlock.
Loudon	Loudon	816	8	.....	.....	.....	.....	.....	.....	.....	2.69	− 0.96	0.62	0	7	12	7	11	w.	Robert W. Clark.
Lynnville	Giles	770	23	76.1	+ 5.1	91	27†	57	1†	29	2.60	− 1.36	1.06	0	8	17	13	0	s.	Col. James H. Burrow.
McGhee	Monroe	.....	7	.....	.....	.....	.....	.....	.....	.....	2.04	.....	0.85	0	6	26	0	4	s.	Miss Alice L. Headrick.
McMinnville	Warren	1,011	27	77.0	+ 7.2	94	7†	58	1†	32	3.88	+ 0.65	1.75	0	7	7	22	1	s.	J. Tilden Sparkman.
Maryville	Blount	1,050	15	76.4	+ 4.7	92	8	62	8†	30	1.85	− 1.31	0.75	0	4	14	14	2	w.	Mrs. Sam T. Broyles.
Mountain City	Johnson	2,486	14	68.6[d]	+ 5.2	84[d]	1†	52	2†	32	2.48	− 0.64	0.82	0	9	.....	.....	.....	.....	Edward E. Barry.
Nashville	Davidson	654	40	77.6	+ 6.1	93	14	59	23	28	1.89	− 1.79	0.96	0	7	10	15	5	sw.	U. S. Weather Bureau.
Newport	Cocke	1,280	21	75.8	+ 6.2	88	3†	62	14	23	2.22	− 0.15	0.70	0	11	9	3	18	w.	Dr. Charles T. Burnet.
New River	Scott	1,215	4	.....	.....	.....	.....	.....	.....	.....	2.18	.....	0.76	0	4	20	3	7	w.	Burl W. Buttram.
Palmetto	Bedford	770	18	77.2	+ 4.9	96	27	51	23	40	2.57	− 1.09	1.10	0	6	21	8	1	s.	Mrs. Ross Woods.
Pinewood	Hickman	.....	4	74.7	.....	.....	.....	.....	.....	.....	4.22	.....	.....	.....	.....	.....	.....	.....	.....	Miss Carrie Cash.
Pope	Perry	400	14	78.2	+ 5.8	98	19	55	1	36	3.70	+ 1.01	1.70	0	3	14	15	1	s.	Miss Bessie Howard.
Rogersville	Hawkins	1,150	26	70.3	+ 1.5	93	2†	56	27†	35	2.00	− 0.64	0.56	0	10	14	14	2	w.	Fred Beal.
Rugby	Morgan	1,410	23	74.3	+ 7.0	93	7†	51	30	38	2.68	− 0.91	0.63	0	11	7	9	14	nw.	Samuel G. Wilson.
Savannah	Hardin	442	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	William Fort Bell.
Sevierville	Sevier	.....	5	75.6	.....	93	28	60	7†	31	3.17	.....	0.88	0	8	0	15	15	sw.	Herbert O. Eckel.
Sewanee	Franklin	2,000	15	74.9	+ 5.4	90	28	58	2	22	2.10	− 1.06	0.92	0	4	2	11	17	s.	Arthur H. Noll.
Sparta	White	920	5	75.6	.....	91	8†	57	21†	30	2.24	.....	0.88	0	6	13	10	7	w.	Ernest H. Hull.
Springdale	Claiborne	1,058	21	75.2	+ 5.4	96	4	52	30	34	2.42	− 0.98	0.75	0	6	12	16	2	w.	Mrs. Lucy E. Breeding.
Springville	Henry	377	8	76.1	.....	93	12†	50	22†	35	4.74	.....	1.43	0	12	18	8	4	s.	Hudnall A. Boden.
Tazewell	Claiborne	.....	14	.....	.....	.....	.....	.....	.....	.....	3.92	+ 0.52	0.86	0	6	8	7	15	sw.	J. Caloway Carr.
Tullahoma	Coffee	1,075	23	76.1	+ 6.2	92	27†	56	1†	32	2.06	− 1.08	1.13	0	6	11	18	1	s.	Reuben T. Moore.
Walling	White	909	8	.....	.....	.....	.....	.....	.....	.....	1.69	.....	0.55	0	6	19	3	8	.....	John K. Roberts.
Waynesboro	Wayne	753	25	77.6	+ 7.5	94	27	53	23	37	2.29	− 1.08	0.78	0	6	8	20	2	sw.	Harry C. Boyd.
Wildersville	Henderson	400	14	77.4	+ 5.7	94	27	53	30	35	3.90	+ 1.09	1.10	0	9	20	7	3	s.	William R. Wilson.
Worsham	Sumner	550	10	.....	.....	.....	.....	.....	.....	.....	2.29	.....	0.72	0	7	12	7	11	w.	James G. Elizer.
Yukon	Lincoln	850	14	76.4	+ 3.8	92	27	57	3	29	3.33	− 0.06	2.50	0	3	21	9	0	w.	William P. Watson.
Alabama.																				
Bridgeport	Jackson	660	11	.....	.....	.....	.....	.....	.....	.....	3.34	+ .48	1.75	0	5	.....	.....	.....	w.	R. L. Moore.
Decatur	Morgan	573	29	78.6	+ 5.8	95	28	58	1†	31	2.84	− .10	1.55	0	5	20	4	6	s.	Ernest A. Carriger.
Florence	Lauderdale	563	27	78.8	+ 5.6	92	14	60	22	27	1.76	− 1.58	.96	0	2	24	0	6	w.	Robt. E. Coburn.
Guntersville	Marshall	580	1	79.4[f]	.....	98	28	61	1	35	1.12	.....	.72	0	2	.....	.....	.....	e.	L. S. Long.
Madison	Madison	573	17	78.7	+ 4.5	98	9	58	1	31	1.53	− 2.02	.95	0	3	26	4	0	nw.	Albert Klish.
Riverton	Colbert	360	14	77.4	+ 4.3	97	27	52	23	40	1.92	− 1.48	.76	0	6	17	8	5	e.	Ernie J. Moore.
Scottsboro	Jackson	652	28	77.5	+ 5.6	95	28	61	22†	32	1.32	− 2.25	.65	0	6	14	6	10	nw.	H. A. Caldwell.
Tuscumbia	Colbert	488	29	78.4	+ 5.4	94	14	59	*23	29	1.01	− 2.08	.60	0	5	11	8	11	se.	Samuel Moore.
Georgia.																				
Diamond	Glimer	2,020	21	74.2[a]	+ 5.6	90[a]	10	59[a]	8†	30	2.89	− 1.85	.....	0	8	12	15	3	.....	R. A. Kimzey.
Mineral Bluff	Fannin	.....	.....	74.2	.....	91	2†	58	8†	33	3.32	.....	1.36	0	11	10	20	0	n.	J. M. C
North Carolina.																				
Altapass	Mitchell	2,629	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. J. Woodward.
Andrews	Cherokee	1,800	1	74.9	.....	93	1†	56	7†	35	3.97	.....	1.73	0	14	13	16	1	sw.	J. D. Link.
Asheville	Buncombe	2,255	32	71.0	+ 6.0	86	7	55	15	30	2.26	− .78	.71	0	15	6	18	6	nw.	U. S. Weather Bureau
Banners Elk	Avery	3,750	3	65.2	.....	80	1†	48	2	31	2.40	.....	.50	0	12	8	12	10	w.	T. L. Lowe.
Blowing Rock	Watauga	4,000	3	65.8[a]	.....	82	8	47	5	31	.....	.....	.....	.....	.....	.....	.....	.....	.....	Herman S. Deal.
Brevard	Transylvania	2,230	10	72.2	+ 5.3	87	7†	56	17	27	7.65	+ 2.95	5.50	0	7	14	14	2	s.	W. E. Breese.
Bryson City	Swain	2,000	23	.....	.....	.....	.....	.....	.....	.....	3.70	+ .44	.95	0	9	.....	.....	.....	.....	D. K. Collins.
Cullowhee	Jackson	2,100	1	72.6	.....	89	27	55	7	32	2.57	.....	1.03	0	9	17	7	6	nw.	F. H. Brown.
Eagle Nest	Haywood	5,050	.....	64.2	.....	76	2	52	1	20	2.93	.....	.87	0	11	17	8	5	sw.	S. C. Satterthwait.
Hendersonville	Henderson	2,167	15	70.7	+ 4.7	88	7†	52	14	32	2.63	− 1.37	.57	0	10	16	9	5	nw.	Dr. L. B. Morse.
Highlands	Macon	3,670	21	67.2	+ 6.9	79	7†	52	15	25	5.90	+ .25	2.00	0	10	12	13	5	nw.	T. G. Harbison.
Hot Springs	Madison	1,326	13	75.5	+ 7.2	92	8	61	15	29	3.56	.....	.59	0	14	10	15	5	w.	P. A. Garner.
Jefferson	Ashe	2,800	4	69.0	.....	85	7†	51	18	31	4.04	.....	2.02	0	9	3	4	23	w.	Prof. E. J. Johnson.
Marshall	Madison	1,646	10	74.6[e]	+ 8.2	93	10	57	15	33	2.34	− .44	.51	0	9	16	8	6	.....	M. L. Church.
Murphy	Cherokee	1,614	35	.....	.....	.....	.....	.....	.....	.....	4.19	+ .77	1.65	0	16	.....	.....	.....	.....	James C. Midyett.
Rock House	Macon	3,100	19	69.0	+ 2.7	82	12	52	14†	27	4.49	− 2.16	1.48	0	17	10	15	5	e.	B. C. Hawkins.
Waynesville	Haywood	2,756	17	70.7	+ 6.0	88	2†	52	7†	34	2.34	− .30	.64	0	14	13	10	7	ne.	Judge J. C. L. Gudger.
Virginia.																				
Big Stone Gap	Wise	1,540	20	71.8	+ 5.1	86	4	54	1	29	4.25	+ 1.40	1.85	0	7	19	4	7	w.	John W. Fox, sr.
Blacksburg	Montgomery	2,170	20	68.2	+ 4.0	87	7	46	18	34	1.31	− 1.76	.44	0	8	9	12	9	w.	Agri. Experiment Sta.
Burkes Garden	Tazewell	3,250	16	64.0	+ 3.7	83	8	44	1†	35	3.52	− .17	1.40	0	8	11	5	14	w.	C. H. Greever.
Elk Knob	Lee	3,243	8	73.0	.....	88	8	56	1†	29	3.27	.....	.73	0	15	11	14	5	sw.	Henry Nicoll.
Ivanhoe **	Wythe	2,028	7	67.2	.....	80	8†	54	14†	22	2.31	.....	.90	0	11	12	12	6	w.	Miss A. G. Jewitt.
Lebanon	Russell	2,131	1	70.7	.....	89	4†	50	14†	36	2.86	.....	1.35	0	9	18	5	7	nw.	R. D. Swain.
Marion	Smyth	2,224	16	69.2	+ 3.8	85	3†	51	14†	32	4.30	+ 1.40	1.55	0	13	10	14	6	nw.	Southwestern State Hosp'l.
Max Meadows	Wythe	2,028	15	68.4	+ 3.0	86	7	45	14	32	2.30	.....	1.20	0	4	20	9	1	sw.	James M. Graham.
Mendota	Washington	1,350	2	.....	.....	.....	.....	.....	.....	.....	4.38	.....	2.10	0	7	.....	.....	.....	.....	Frank M. Barker.
Mountain Lake	Giles	4,348	1	64.3	.....	82	8	42	14	27	2.80	.....	.70	0	10	22	5	3	w.	H. E. Dorland.
Radford	Montgomery	1,773	2	.....	.....	.....	.....	.....	.....	.....	1.44	.....	.60	0	6	.....	.....	.....	.....	Arthur Roberts.
Speers Ferry	Scott	1,221	15	.....	.....	.....	.....	.....	.....	.....	1.10	− 2.58	60	0	4	.....	.....	.....	.....	Mrs. L. E. Venable.
Wytheville	Wythe	2,293	18	69.0	+ 5.4	86	7	50	14	30	2.22	− 1.07	.86	0	8	15	15	0	w.	U. S. Weather Bureau.

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc. days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1911. District No. 8, Ohio Valley.*

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
New York.																																
Allegany	Allegany		.07			1.40	.18	.51	.30				.18			.80				.02		.02					.24	.12		1.27	.05	5.16
Bolivar	do																															
Olean ‖	do			.04			.98	.09	.74	.26			.06			.48	.05				.04		.08			.07	.23		.11	.88	.25	4.36
Pennsylvania.																																
Aleppo	Ohio					.83	.62			.20		.85				1.12	.67				T.				T.		.08		1.65			6.02
Baldwin	Allegheny					1.00	.57			1.40						3.00						.20				T.		.85		.75		7.77
Beaver Dam	Ohio					T.	.52			1.78	.02	.07				2.56	.38				.06		T.			.52	.10		.58	.06	.21	6.86
Brookville	Allegheny					.94	.77		.16	1.00						2.15		.10	.15	.10	.10				.10	.37			1.42			7.36
Clarion	do						2.01		.03	.77						2.14	.82												1.25		.42	7.44
Claysville	Ohio					.19	1.54	T.	.03	.34		.13				1.41	.72					T.			.05		T.	.14	.04	.25		4.84
Confluence	Youghiogheny	.04					.05	.04	T.	1.00	.50	.25	.06			.84	1.40	.15			.30		.50			T.	T.		.28	.90		6.01
Davis Island Dam	Ohio					T.	1.18	T.	.13	4.88	.05	.08				2.25	.56	.01			.14		.01			.01	.31		.29	.13	.12	10.15
Derry Station	Allegheny						.87		.03	.50						2.95	.13			.10		.01	.06			T.	.04	.63	.05	.72		5.69
Franklin	do						.72	.01	.23	1.13						2.21	.08					.11	.04				.61	1.24	.28			6.66
Freeport	do						1.72			1.79	.03					2.94	.48						.03			.21	.15		.76	.41	.19	8.71
Greensboro	Monongahela						.78	.04		.64	.30	.26				.76	1.80				.16		.24						.10	1.18	.10	6.36
Greensburg	Youghiogheny						.19	.95		.02	.45		.16		T.	3.20	.65			.31		T.	.99				.08	.11	.25	.55		7.91
Greenville	Ohio					.82	.11			.93						4.09						.07				.02		.62		.75		7.41
Grove City	do					.64	.19		.31	.43						2.63				.09			.01			.01	.04	.65		1.43		6.43
Herrs Island Dam	Allegheny					T.	1.02	T.	.03	1.80	.05	.03				2.30	.48	.02			.15		T.			.01	.06		.55	.11	.11	6.81
Indiana	do					.26	.84			1.13						2.25	.05			.21		.20	1.35				.26	.95	.05	.86		8.41
Irwin	Monongahela					.51	1.04			.46		.16				2.25	.30			.43		.01	.01				.18	.16	.42	.56		6.49
Johnstown	Allegheny		.05			.05	.04		.08	1.01		.12				2.62	.12			.33		.20	.32			.28	.06	.32	.12	.63		6.35
Lock No. 4	Monongahela						1.05		.15	.45	T.	.38				.87	.50				.10		1.54			.51	.06		.48	.20	.02	6.31
Lycippus	Allegheny					.08	.65		.76			1.22				3.15	1.75			.12		.06	.81				.13		.34	.66		9.73
Parkers Landing	do						1.24		.22	1.00	T.					2.74	.06				.36								.58	1.26	.22	7.68
Pittsburgh	Ohio					.52	T.	.01	.30	1.77	T.	.05			.05	2.33	.07			.38		T.			.01	.01		.27	T.	.29			6.36
Saegerstown	Allegheny			.08		.58	.67			.35						2.54				.25	.09	.08	.09				.25	.90		1.20		7.08
Saltsburg	do						1.20	.01	T.	1.20	T.					2.84	.70	.02			.01		.20				.36		.56	.22	.14	7.46
Skidmore	Ohio							1.00	.80	.40						2.25												1.00		.35		5.80
Somerset	Youghiogheny					1.10			1.90	.60		.21				3.25	.66					1.05				.20			.81	.40		10.18
Springdale	Allegheny						1.24			.17	2.50	.04				3.74	.54						.12			.04	.34		.59	.13	.07	9.52
Uniontown	Monongahela						.55		.40	1.07		.39			T.	.98	.56			.76		.26	1.03				.01	.07	.30	.62		7.00
Warren	Allegheny			.10		.60	.40			.44						2.00				.60			.13			.10	.10		.20	1.60		6.27
West Newton	Youghiogheny	.01					1.86			.09	.60	.16	.47			1.50	.94	.04			.20		.72			.01	.01		.60	.15	.25	7.61
Maryland.																																
Deer Park	Youghiogheny						.39			.63		.18				1.82	.10			.21		.35	.29			.08		.11	.76	.73		5.65
Grantsville	do						.55		.20	.82						2.00	1.20			.20		.15				.15				1.11		6.38
Oakland	do					.07		.08		.18						1.87				.20		.42	.32			.15	.02	.07	.95	1.25		5.58
West Virginia.																																
Bancroft ‖	Great Kanawha						.22				.17	1.13		.02	T.	.23	.83	.08					1.16	T.								3.84
Beckley	do						1.28					.20								.33			.58					.15				2.54
Bens Run	Ohio					.35	.47	.63		.48		.07			.13		.30		.21			.04						.02		.40		3.10
Bluefield	Great Kanawha				.56		.41			.30	.20	.15				.10	.55	.30				.71	.48									3.76
Brandonville ‖	Monongahela								*	1.63						.95	1.10					*	.79					.50	.60			5.57
Buckhannon	do					T.				.36		.80	.18			2.02	.67			.22		1.20					T.		.70	.01		6.16
Cairo	Little Kanawha					.83	.20					.40			.52	1.25				.60									.30		.22	4.33
Central Station	Middle Island Creek.					.18	.19			1.08		*	*	*	*	*	*	1.66		.17		T.	.79				T.	T.	.01	.47		4.55
Charleston ‖	Great Kanawha						.05			.25		1.00				.10	.80	.05			.22		.58							.10		3.15
Creston ‖	Little Kanawha						.73	.02			.66	.84				.19	2.02	.11			.37		.17				.10	T.	.27			5.48
Cuba	Sand Creek					.17	.50			.68		1.05		T.	.26	1.60	1.26			.43		.05					.13		.09	T.		6.22
Davis ‖	Monongahela																															
Elizabeth ‖	Little Kanawha	.01					.40	.23	.01	.15	.38	.65				.05	1.73				.33		.14				.13		.19	.01		4.41
Elkhorn	Big Sandy				.50		.30				.25	1.75				.75	.45						.65			.10						4.75
Elkins	Monongahela					T.	.22		.05	.28		.89	.07	T.	.06	1.85	1.13	.01		.13		.41					.10	.28	.74	.65		6.87
Fairmont ‖	do				T.		.61	.07		.01	.71	.14		T.	T.	.97	.56	.03			.12		.05				T.		.18	.92	T.	4.37
Glenville ‖	Little Kanawha						.30			.10	.40	.67				.57	1.62				.41		.90				.10		.43	T.		5.50
Grafton	Monongahela					.05	.65			.41	.05	.26	.08	T.		1.90	.32			.05	.05		.28					T.	.59	.75		5.44
Green Sulphur Springs.	Great Kanawha					.15	.16			.12	T.	.25	T.	T.	T.	.52	.04	T		T.	.07	.03	.47							.22		2.03
Hinton ‖	do	.04				.04	.20					.36	.16	1.04		.12	.42				.10	T.	.08						.08	.16		1.80
Huntington ‖	Ohio						.18			.18	.10	.18	.40			.40	.82				.38									T.		2.64
Lewisburg	Great Kanawha					.22						.31				.28	.04					.16	.69							.35		2.05
Logan	Guyandotte																															
Lost Creek	Monongahela					.34	.14			1.08		.87	.15		.12	1.81	.70			T.		.08	.50						.06	.36		6.15
Madison	Great Kanawha																															
Mannington	Monongahela			T.		.35	.65	.01		.90	.01	.08	T.	.01	.03	2.00	.38	.01		.29			.16				.09	.14	.07	.81		5.99
Marlington	Great Kanawha				.03		.15			1.02		.71	.31			.85	.01				*	*	*	*	*	*	*	.22	.09	.22		3.61
Morgantown	Monongahela					.25	1.15			.65				T.		1.52	.33			.12		T.	.20				.22		.27	1.02		5.73
Moundsville	Ohio					.45	1.04		.85	.20		.82		T.		1.28	.91						T.						.08	.13	.55	6.31
New Cumberland	do																															
New Martinsville	do					.80	.20			.30		.94			.03	1.40	.17			.33		.10					.05	.61	.17	.57		5.67
Nuttallburg	Great Kanawha					1.00				T.		.68	T.		T.	.90	.40			T.		1.49										4.47
Parkersburg	Ohio					.29	.02	.05	T.	.80	.07	.07		T.	.11	1.03	.78			.28		.11				T.	.16	.05	T.	.07			3.89
Parsons	Monongahela											.50			.75	.60	.50										.90	.65	.60			4.50
Philippi	do					.23	.19	.02			.26		.31	.02	.01	1.42	.45		.01	T.	.04	.12	.32	T.		.03	.02	.01	.19	.59		4.24
Pickens	do			.27			.72			1.12		1.43	T.		T.	1.71	.83					1.05					.57		.60	T.		8.30
Pineville	Guyandotte																															
Point Pleasant ‖	Ohio						.16	.01		.08	.36	.94				.20	1.90	.20			.02						.14		.08	.01		4.10
Powellton	Great Kanawha	T.			1.18	1.62	.16			T.		.83	*	*	*	*	*	*	1.00	.05		.05	1.03		.05					T.		5.97
Princeton	do				.12	.13				.50	1.50				.15	.15	.10					1.25				10		.15				4.15
Robertsburg ‖	do						.20				.17	1.62	.06			.25	1.00	.10			.05		.12				.27		.25			4.09
Rowlesburg ‖	Monongahela	.01					.40	.05		.20	.10	.20	.04			.70	.70	.05			.06		.86				.16		.64	.90	.06	5.13
Ryan	Great Kanahwa					.14	T.	.28		.65	T.	.74			.20	1.03	.34			.34		.21				.01		T.	.81	.02		4.77
St. Marys ‖	Ohio						.39		.29	.30	.25	.10				.24	.85	.04										.06	.44			2.98
Smithfield ‖	Fishing Creek						1.24	.02		.90					T.	2.97	.81					.43				.05		.60	.78			7.89
Spencer ‖	Little Kanawha						.35				.88	1.56	.45		T.	T.	1.10	.07			.05	.42	.42				.60		.64		T.	6.54
Sutton (R)	Great Kanawha					.40	T.				2.00	.64	.20																			
Terra Alta	Monongahela				.10		.45				.21	.24		T.	T.	2.35	.45				.60	.45				.64	1.42		.84			7.75
Union	Great Kanawha		.11				.14				.20	.44	.08	.12			.20								.28				.11	.38		2.06
Valley Fork	do			.69						.85	.25					.75	.52			1.00	.25			.82	.60		.25	.80			6.78
Webster Springs	do			.09	.12	T.	.27		.12	.07	.15	1.20	.45	T.	T.	1.15				.20		.60	.40		T.	.10	.32		.82			6.06
Wellsburg	Ohio					1.08	.06		.17	2.09		.11		T.	.05	1.54	.38					T.						.35		.37		6.20
Weston ‖	Monongahela	.20				.32				.04	.28	1.40		.04		.20	1.04				.16		1.20				.10		.06	.40	.08	5.52
Wheeling ‖	Ohio						.88	.11	.10	.70	.20	.20				.52	.93	T.			.17		T.						.12	.36	T.	4.39
Williamson ‖	Big Sandy					.10	.96					.10				.04	.06	.36					.04				.16					2.48

TABLE 2.—*Daily precipitation for September, 1911. District No. 3*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Ohio.																															
Amesville	Ohio					1.73	.22		.70	.50	.01	.06			.11	1.10	.72	.02		.16									.45	.10		5.88
Bangorville	Muskingum					.71				1.34			.01	.01	.08	1.45	.12		T.	.07		.05				T.		.42		.06		4.32
Bellefontaine ‖	Great Miami						.86			.23		.09				1.63	1.16			.28			T.				.02	T.	T.	.39		4.66
Bladensburg	Muskingum					.70		.11		.82		.20		T.	.10	1.50	.25		T.			.02										3.70
Cadiz	Ohio					.97		.11	.23	1.32		.38		T.	.05	2.09	.42					.03				.06	T.		.22		.07		5.95
Cambridge	Muskingum					.89		.23	.05	2.26		.41				1.19						T.							.86		.89		6.78
Camp Denison	Ohio					1.90				.25	.84	1.40			.47	.46	.87		.30	.02		.06							T.	.18			6.75
Canal Dover	Muskingum					.72	.09	.10		1.50	T.		.70		T.	2.95	.34			T.						.22			.22		.08		6.92
Canton ‖	....do	.03				T.	.47		.10	.70		.33				2.63	.08										.02				.07	.06	.01	4.50
Cardington	Scioto							.92		1.46	.01				.45	1.18													.10	.16			4.28
Chillicothe ‖	....do						.47			1.05		.14				.10	3.80			.04										.07			5.67
Cincinnati	Ohio					2.16			.04	.11	1.34	1.53			.22	1.01	.40		.55			.05							.08		.03		7.52
Circleville ‖	Scioto						.84	T.		.55		.16		.01		.69	.85	.01		.35			.02				.03			.65	.09		4.25
Clarington	Ohio					.80	.20		.45			.45		T.	.10	2.50	.32			.10			.05			.05			.15	.05	1.20		6.42
Columbus	Scioto					.98		T.	.73	.19	.15			T.	.43	1.79	.30		.64	T.		.01					.01	.20	.52	.03		5.98
Coshocton ‖	Muskingum						1.76			1.95	.50					.90	.20												.50	.05		5.86
Dayton (1)	Great Miami					1.16			.36	.28	.28			T.	1.02	.46	.39		T.			T.					.01	.05	.16	.02		4.19
Dayton (2)	....do					1.12				.81	.01	.26			.96	.40	.35		T.								.03	T.	.04	.22		4.20
Delaware	Scioto					1.02				.90		.14		T.	.20	.97	.21		.35	T.		.03				T.		.19	T.	.15		4.16
Demos	Ohio					.90	.57	.10	.01	.34		1.35		.03	1.58		.49									T.	T.	.18		.75		6.30
Dennison	Muskingum					.62	.03	.19		1.21		.31		T.	T.	3.73	.34			T.		T.						.34		T.		6.77
Frankfort	Scioto					.95				.40		.20			.60	.95	.67		.15										.15	T.		4.07
Garrettsville	Mahoning			.34		.36	.10	.58		.28						2.11						.02			T.	.10		.98		1.26	.05	6.18
Granville ‖	Muskingum					T.	1.25	T.	.28	1.18		.14		T.		.55	.86			.02			.01				T.		.03	.79		5.11
Gratiot	....do					.70		.28	.05	1.32		.90			.13	.35	.20		.01			.01				T.		.03		1.05		5.03
Green	Ohio					.19				.26				.50	.37	1.43	1.55		.05													4.35
Green Hill	Muskingum					.45	.46	.11		.94		.09		T.	T.	2.49	T.			T.		T.			T.	T.		.08		T.	T.	4.62
Greenville ‖	Great Miami					.16	.95			.83		.14		.02		.74	1.10			.93							.31		.01	.26		5.45
Haydensville	Ohio					.62	.06	.08	.96	.73		.05			.26	.84	.46											.53	.02	.04		4.65
Hillsboro	Scioto				T.	.83	.08	T.		.57	T.				1.86	.51	1.54		.08										.21	.14		5.82
Ironton	Ohio					.10	.13			.13	.26	.72			.72	1.06	.27	.02	.13	.09												3.63
Jacksonburg	Great Miami					1.10			.75		.45			.05	.88		1.30		.05			T.				T.	T.		.15			4.73
Kenton	Scioto					.53				.69					.20	2.02	.05		.28									.13				3.90
Killbuck	Muskingum					.76	.03	T.		1.70					.08	3.40						.03				.18		.22		.07		6.47
Lancaster	Ohio					.48	.33	.08	1.07	.56		.73		T.	.38	.33	.21		.10			T.					T.	.57		.22		5.06
McConnelsville	Muskingum					.56	.04	.03	.09	.41	T.	1.16			.19	.85	.32					T.					T.	.13	T.	.35		4.13
Marietta	Ohio					.48	.17		.04	.48		.11			.25	.77	.48			.45		.09						.05		.33		3.70
Marion	Scioto					.88				1.32	T.				.22	.64	.04		.39							T.	T.	.10		T.		3.59
Millfordton	Muskingum					.55			T.	.65		.18				.08	1.57	.19		.06			T.					.04		T.		3.32
Milligan	....do					.84		.36	.50	1.34		1.41			.20	.44	.34					T.						T.		.53		5.96
Millport	Ohio					.48	.42	.10		1.18		.27			T.	2.24						T.						.09	.03	.04		4.85
Nellie	Muskingum					.96		.15	.82	.90		.04			.05	1.75	.15				.05		T.					.45				5.32
New Alexandria	Ohio					1.00	.40	T.		2.00					T.	1.75	T.		.20			.50					.20			.10	T.	6.15
New Berlin	Muskingum					.52				.78			.03		T.	3.12						.03						.15		.20		4.83
New Waterford	Ohio						1.15			.72						2.60											.20		1.77	.25		6.69
Ohio State Univ'y	Scioto																															
Pataskala	Muskingum					1.35	T.	.05	1.55	.55		.12		T.	.22	.99	.18		.10			.04				.01		.16		1.86		7.18
Peebles ‖	Ohio									1.34		2.65				.44	1.35	.05											.10	.05		5.98
Philo (1)	Muskingum					.66	.14	.36	.02	1.18		1.33			.12	.42	.40					.04						.03		.71		5.41
Piqua ‖	Great Miami					.90	.80			.40	.80					1.20	.76		.55	.40										.15	.40		6.36
Plattsburg	....do					1.19				.67	T.	.41			.65	.79	.20		.21			.03						T.	T.	.71		4.86
Portsmouth ‖	....do						.15			.26		1.90	.08		T.	.40	1.39	.02		.03								.01				4.24
Prospect ‖	Scioto																															
Rittman	Muskingum																															
Shenandoah	....do					.65	.03			.61			.05			1.42	.03		.04			T.				T.	.04	.41		.08		3.36
Sidney	Great Miami					1.66			.36			.10		.02	.75	.57	.23		.06									.39	T.	.21		4.35
Somerset ‖	Muskingum						.67		.51	1.00		.46			T.	.24	.80	.03		.07							.06		.09	.47		4.40
Springfield	Great Miami					.93		T.		.62	T.	1.16		.02	.81	1.24	.51		.54								T.	.08	.05	.83		6.79
Summerfield	Ohio					1.29	.07	.16	.29	.44		.35		T.	.09	.50	.22			.02								.40		.81		4.64
Syracuse	....do					.65	.26		.87		1.44		.01	.23	1.00	.60	.02	T.	T.										.26			5.34
Thurman	....do					T.	.22		T.	.35		.82		.42		1.50	.40										T.					3.71
Urbana	Great Miami					1.17			.03	1.27		.30			.60	1.05	.21		1.04									.80	T.	.25		6.72
Warren	Mahoning			T.		.87	.10	.09		.51		.04				2.85				T.		.05				.20		1.15		1.43		7.29
Waverly ‖	Scioto		T.				.23	.05		1.72	.05	1.14	.03	T.		.34	2.58	.06	T.	.60	T.	T.	.02		T.					.03	.01		6.86
Waynesville	Great Miami					.93			.50	.87		.35		T.	1.05	.55	.70		.27	T.									T.	.45			5.67
Wooster	Muskingum					.36	T.			1.64			.02		.04	4.12	.02		T.			.03				T.		.30				6.53
Youngstown ‖	Mahoning						.75		.11	.42						3.20	.16						.02						.75	.35	.20	5.96
Zanesville ‖	Muskingum						.88		.07	1.05	.09	.60		T.	T.	.07	1.22	.01			T.		.02				T.		.02	1.80		5.83
Indiana.																															
Anderson	W. Fork, White					1.20				.18	.10	T.			.77	.11	.59		.27			.11					.28	.18	.17	.18		4.14
Attica ‖	Wabash					.83	.02	.31				.76	.50	.10		.57	.11		.55	.30	.05	.07				1.01			.08	.78		6.04
Bloomington ‖	W. Fork, White					1.66	.09	T.		1.01		.46	.03	1.07	.12	.26	3.26		.02	.03		.02				.02	.15		1.08	.35		9.63
Bluffton ‖	Wabash					.20	.20			.18		.02			.02	1.90	.03		.40	.43		.07				.06	.18			.30		3.99
Butlerville	E. Fork, White					1.24				.65	.20	.33	.05	.38	.22	1.30	2.32		.11	.14						.04		.42	1.01	.28		8.69
Cambridge City ‖	Whitewater					.50	.59			.51		.26		.01		.34	.90		.07	.01			.02				T.		.18	.15	.02	3.56
Columbus ‖	E. Fork, White					.86	.24			.50	.01	.66	.12	.45	.31	.01	5.45	.02									.04		1.63	.33		10.63
Connersville	Whitewater					.93				.80		.34			1.20	.05	.57												.78			4.67
Crawfordsville	Wabash					.96		T.		T.	.50		.18	.16	.08	.22	.64		.05			T.				.48		.40	.15	.20		4.02
Delphi ‖	....do					.37	.04	.09		.02		.06	.03	.03		.87	.03		.81	.24		.16	T.			1.40	.04		.14	.78		5.11
Eminence	W. Fork, White					1.25	T.		T.	.34					.85	1.50	.55					T.			.10	.05	.80	.90	.70	.38		7.42
Evansville	Ohio			.03		.55			.15		.02	T.				1.41	.17	T	.32			.14				T.	.13			.33	T.	3.25
Farmersburg	Wabash					1.70			1.00		.31			1.31	.35	.78	2.07		.53			.06				.60			1.40	.79		10.90
Farmland ‖	W. Fork, White					.15	.51			1.83		.14				1.11	.63		.03								.36		.10	.18		5.04
Greenfield	E. Fork, White					1.40				1.10	.35			T.	.36	.25	.60		.12							.05		.05	.56			4.84
Greensburg	....do				.97					.33	.35	1.10		.10	.25	1.20	1.85		.56									.73	.80			8.24
Huntingburg	Wabash				.82	.44				.27			1.12		1.40	1.07		.20												1.08		6.40
Huntington	....do					.49				T.	.05	T.		.02	.85	.90	.05		.80			.10			T.	.25		.48		.38		4.37
Indianapolis	W. Fork, White					1.36		T.	.11	T.	.41		.10	.05	.07	.43	.29		.23			.07				.27		1.10	.11	.07		4.67
Jeffersonville	Ohio			.17		.34		.25	.03	T.	.98	T.		1.15		.14	.35	.10	.03			.08				T.			T.	.36		3.98
Judyville	Wabash					.75		.39	T.		1.05	.02	.57	.31		.35	.07		.86	.10					.01	1.25	.06	.10	.46	.27		6.62
Kokomo	....do					1.10				T.	.07			T.	.86	.27	.08		.49			T.			T	.85	.20	.05	.09	.42		4.48
Lafayette ‖	....do					.70		.08	T.	.02	.21	.05	.04	T.	.01	.18	.06	.15	.56			.07			.10	1.24	.12	.40	.50	.34		4.83
Laurel	Whitewater					1.08					.03	1.75			1.02	.22	.92	.10											.51	.02		5.65
Logansport ‖	Wabash					.20						.09			.44	4.41			.45	.08		.15				.96	.03		.08	.51		7.40
Madison	Ohio					.97		.05		.06	.23			1.30	.70			.85				.11							1.11	.18		5.56
Marengo	....do			T.		.33			.29		.25			1.70		*	.57	T.	.05			.15					T.		.15	.85		4.34
Marion ‖	Wabash					.40	.29			.15		.08				4.09	.15		.15	.35		.06				.40	.05		.06	.12		6.34
Maury	E. Fork, White					1.03				.40	.25			T.	1.37	.13	.65		.07			T.				T.		T.	.92	.03		4.85
Monticello ‖	Wabash					.19		.15		T.		.11	.05	T.	.82	1.68			.65	.04		.21				1.35	.04		.05			5.34
Moores Hill	Ohio					3.08				.43	1.15	1.36		.06	.70	.60	1.86		.77	.63		.05						.05	.33	.16		11.23
Mount Vernon ‖	....do					.06	.34			.10		.07					.93	.20	.02	1.09		.10					.33			.40		3.64
Paoli	E. Fork, White					1.44				.50	.74	.05		1.45	.07	.40	.42	.07	.30	.02		.05				.06			.63	1.43		7.69

TABLE 2.—*Daily precipitation for September, 1911. District No. 3*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
***Indiana*—Contd.**																																
Princeton‡	Wabash			1.46	.97			.18			.10		.09			.55			.60			.07				.28	.08		.45			4.83
Richmond	Whitewater					.80			.20		.37				.38	.37	.42		.08			.01				T.	T.	.13	.19	.03		2.98
Rochester	Wabash						.07	.10	T.		.05	T.		.08	1.04	.03			.64			.25			.52	.56	.36		.01	.30		4.01
Rockville	do					.89		.05	.10	.04	2.07		.65	.52	.30	.30	.74		T.			.02				1.43	.04	.33	.66	.27		8.38
Rome	Ohio				T.	.59	T.			.03	.35	.02		.90		.22	.25	T.		T.		.27	T.						.01	1.20		3.84
Salamonia	Wabash					.48				.82	.09	.08			1.21	.78	.60		.30			.08					.11	T.	T.	.26		4.81
Salem	Ohio					.60			.05	.83	.12	.10		1.85	.84	.22	.44	.04	.41	T.		.06				T.	T.		.35	.70		6.61
Scottsburg	E. Fork, White					1.01			.30	.23	.19	T.		.74		.60	.36	.24	T.			T.				T.			.45	.68		4.80
Seymour	do					2.06			.52		.42		.04	.73	.39	.36	1.77	.07	T.			T.				T.		1.35	.34	.20		8.25
Shelbyville	do					1.34				1.60	.75	.49	.04	.05	.41	.25	.63		.30							.04		.78	.50	.09		7.27
Shoals‖	do					1.18	.35			.23		1.44		1.93	.13	.17	.76	.37		.12		.02					.08		.81	1.68	T.	9.27
Terre Haute	Wabash					1.50		.07	.60	.40	1.30		.03	1.00	.34	.88	.54		T.			.18				.92			2.58	.86		11.20
Veedersburg	do					.86	.10			.03	.50	.03	.60	.29	.05	.42	.18		.05			.01			.01	.90	.03	T.	.19	.13		4.38
Vevay	Ohio					1.50			.10		.90			.25	.10	3.20	.65		.05			.05							1.40	.65		8.85
Vincennes‖	Wabash					2.30	1.00	T.		.65		1.20		1.00	.25	.10	2.10	.10	T.	1.65		.10				.50	.85		1.50	1.50		14.80
Washington	W. Fork, White					2.93			.43	.03	.38			1.38	T.	.28	1.32	T.	.20			.01				.25			.75	2.55		10.51
Whitestown‖	do					.82	.32	.01				.43	.06	.05	.04	.57	.83		.04	.18		.11				.29	.07		.24	.80		4.86
Winona Lake	Wabash					.15	.02	.02		.01	.03				.75	.80			1.00			.45			.20	.60		.32	.01	.24		4.60
Worthington	W. Fork, White					1.30				.83	.20		.03	1.62	T.	.36	1.05		.05			.08				.37			1.67	.39		7.95
Illinois.																																
Albion	Wabash			.21		1.55		.09	.46	.36	.05					.22	.35		.05	.02		.19				.12	.22		.09	.10		4.08
Carmi	do				.63			.16	.10	.70						.25	.28	.27	.33			.40				.12	.46		.09			3.79
Charleston	do				.17	.85		.46	.30		.90			2.49		.44		.01	.07		.01					.92		1.51	.91	1.21		10.25
Danville	do					.62		.54	.03	T.	.44		.66	.44		.60	.17		.18			.05			.08	1.64	T.		.29	.17		5.91
Equality	Ohio			.02	.10	1.10		.08	.32	.08	.03	T.	T.				.20	.27	1.57			.24				.07	.27			.72		5.07
Fairfield	Wabash			.08		2.27		.32	1.40	.22	.11					.27	.36	.22	.51	.08						.26	.23		.16	.31		6.80
Flora	do					2.88		.81	.28		.53			.02	T.	.08	2.25	.13	.70			.31				1.04	.10		.53	.16	T.	9.82
Golconda	Ohio			.19		1.25		.07	.10	T.	.11				T.		.66	.67	.84			.41				T.	.96			.39		4.75
Hoopeston	Wabash					.16		.66	.01	T.	.77	.02	.69	.12	.02	.20	.07		1.76			.05			.24	1.62	.14	.19	.14	.42		7.28
McLeansboro‖	Ohio				.44	1.00	.10	.40		.60							.40		1.00	.85		.30					1.00			.10		6.19
Metropolis	do																															
Montrose	Wabash					1.55		1.00	.53		.61			2.24		.71	1.94	.05	.10			.12				2.72	.02		.86	1.19		13.64
Mount Carmel‖	do				.30	.72	.26	.02		1.08		.10		.10	.02		1.06	.02	.04	.64		.06					.40	T.	.16	.46	T.	5.44
New Burnside‖	Ohio					1.62	.10	.20	.10	1.09		.18	T.				.30	.16	.16	.55		.41		T.			.13			.45		5.45
Olney‖	Wabash					3.23		.26	.08		.58			.51			2.43	.08	.77			.26				1.47			2.35	.21		12.23
Palestine	do					1.56		.02	.86		.79			2.62	.08	.29	1.60		.26			.16				.70			1.05	1.53		11.52
Paris‖	do					.57		T.		.10		.85	.05	.90		.63	1.60			.08						1.30			3.35	2.00		11.43
Philo	do					.78		.78	.10		.73			.84		.24	.76		.66						.15	2.02	.34	.15	.98	.39		8.92
Rantoul‖	do					.37		1.42		.05		1.68	.32	.48		.75	.17	T.	.06	.13		.13				1.87	.05		.08	.35		7.91
Robinson	do				1.63	T.	.12		.80		1.60		2.40	T.	.43	1.66			.10						.85	.11		.82	1.80		.20	12.52
Sumner	do					3.71		.63	.10	.38	.54			1.48		.29	1.37	.63	.36			.24				1.41			3.25	.81		14.00
Tuscola	do					.70		.63	.10	.41				1.63	T.	.30	.44	T.		.81		.03				1.35	T.		2.40	.47		9.27
Urbana	do				.60			1.14	.04	T.	1.67		.07	.63	T.	.68	.12	T.	.15			.18			.31	2.72		.01	.36	.22	T.	8.90
Kentucky.																																
Alpha	Cumberland					.50				.35	.20			.60			.20					T.							T.	T.		1.85
Anchorage	Ohio			.19				.20			.40	.10		.74	.10	.21	.24	.03	.22											.53		2.96
Bardstown‖	Salt						.35		.35			.20		.89	.16	.10	T.			.18										T.	.90	3.13
Beattyville‖	Kentucky					1.86	.64			.12	.20	.92			.32			T.		.34			.16							.20		4.76
Beaver Dam‖	Green				3.32					T.		.94						T.		.43			.20				T.			T.	.10	4.99
Berea	Kentucky				T.	.73					.65			.56					.36	.50									.90	.38		4.08
Bowling Green‖	Green								.12		.10	.08				.05	T.	.05														0.40
Burnside‖	Cumberland					.25	1.00				.70	1.14			.45			T.		.65	.05		.04							T.	T.	3.66
Calhoun	Green				T.	.67			.16		.47	T.					.04	T.		.19		.42				T.	.10			.22	T.	2.27
Catlettsburg‖	Big Sandy					T.	.20			T.		.50	.54	T.		.10	1.00	.14		.42	.14						.04			T.		3.08
Earlington‖	Green						1.04			.10		.09					T.	.70	T.	1.07		.25					T.	.02		.20	.22	3.60
Edmonton	do					.90			.17		.11	.02		.47			T.		.28		.10	.02			.03					.07	T.	2.19
Eubank‖	Cumberland						.75				.30	.44			.80					.57											.16	3.02
Falmouth‖	Licking						.23					1.06	.01	.09		.33	1.10	.10		.08			.04							.40		3.44
Farmers	do				.29	.15				.37					.27	1.00	.04		.62	.35	.27											3.36
Frankfort‖	Kentucky				.05	.13	.37		.52			.63	T.	.48	.06	.16	.22	.05		.16		T.								.22	T.	3.05
Franklin	Green					1.32			13			.04					.03	T.												T.		1.52
Greensburg‖	do	.02					1.15		.20	.32	.04	.34				.52	.10	.08		.42			.03							1.10	.28	4.60
High Bridge‖	Kentucky					.19	.22			.90		1.86		.20	.33					1.02										.17	.29	5.18
Hopkinsville‖	Cumberland						.95		1.15	.05		T.					.05	.75		.50		T.										3.45
Irvington	Ohio					2.10		.24		.08	.08			.97		.21	.16			.18		.37									1.40	5.79
Leitchfield	Green					1.50		1.28	.02		.02			.40		.12	.02		.73			.15								1.27		5.51
Lexington	Kentucky				T.	.32		T.	.03	.21	1.22			.46	.06	.70	.01		.71	.46		.02								.17		4.37
Loretto	Salt					.43		.28			.21	.07		1.20			.05		.28	.35										1.30		4.17
Louisville	Ohio			.54		.43	.01	.39	.05		.75			1.26		.05	.33	.17	.07			.05				T.			T.	.56		4.66
Marion	do			T.	T.	1.39		.13	.31		.26						.39	.32	T.			.47				T.	T.		T.	.40		3.67
Maysville‖	do					.39	.39			1.10		1.36	.03		.03	.64	.55	.03		.52			.15						.08	.04		5.31
Middlesboro	Cumberland					.24	.04				.03	.22	.82				.05	.02	.09	.04		.05	1.25	.02		.54				.10			3.51
Mount Sterling‖	Licking	T.				.40	.20			1.09	.09	1.06	T.	.03	.29	.11	.82	.02		.32			T.								.05		4.57
Owensboro‖	Ohio				.05	T.	.43					.02	T.	T.	.05		.07		T.	.09		.22					T.			.54	.03	1.52
Paducah‖	do					.30	1.36	.12	.10	.42		.14					.04	.04	.30	.10		.44	.02				T.				T.	3.38
Paintsville	Big Sandy																															
Pikeville‖	do										.24	.40	.12			T.	.34	.24	.26		.32		1.00									2.92
Richmond‖	Kentucky					.19	.25				.53	.05	.73	T.	T.	.51	T.			1.72	.24										T.	.19	4.41
St. John‖	Salt						.54		T.		T.		.05		.03	.85			.05	.75		.12					.04			.15	.87	3.45
Scott	Licking					1.50	.03	T.		.12	1.06	1.92		.02	.22	.75	1.08		.34	.08		.05				T.		T.	.19	.10		7.46
Shelby City	Kentucky					.45	.15	.48	.48	1.28	.30	.11		.83					.14	.35		T.							.27			4.84
Shelbyville‖	Salt						.70		.40			.64		.50	.20	1.10	.20	.10		.70			.10							.35		4.99
Taylorsville	do				T.	.48		.40	.13	.02	.45	.08		1.07	T.	.01	.12		.12			.27								.46		3.61
Williamsburg‖	Cumberland					.18	1.40					.10			.42					.79			.15			.20						3.24
Williamstown‖	Licking					.21	.42		.39	.10		.87		T.	.11	.04	1.94	.05		1.70			.15						.05	.35		6.38
Tennessee.																																
Ashwood	Tennessee					.60		.62		T.		.25					T.	.10													.15	1.72
Benton	do				T.	1.08	.35					1.08		T.			T.	.41		.50		.18		T.	1.35							4.95
Birds Bridge‖	do	.02					.63					T.			.82			.53		.15	.06		.02							.15		2.40
Bluff City‖	do	.04				.42	.90					.69				.03						.08			.01					.12		2.29
Byrdstown	Cumberland					1.10			.15	.20				.23			.11															1.79
Carthage‖	do						.34	.05			.60	.05						T.		T.		.10									.44	1.58
Cedar Hill	do					1.50				.01	T.	.03					.45	.03				T.								T.	.07	2.09
Celina‖	do					.92					.61	.20			.18			.43	.12												.37	2.83
Center Point	Tennessee						.25				.50	.20	.11	.42						.66												2.14
Charleston‖	do	.02				.08	1.95						.30	.99		.04		.15	.10	.06	.32		.28				.02					4.31
Chattanooga	do			.05		.34					.36	.18						.18		.02				1.72	.06						.06	2.97
Clarksville	Cumberland					.48					.13						.22	.06		.10		.06								.04	.07	1.18
Clinton‖	Tennessee						.34				.35				.27			.13					.30								.10	1.59

TABLE 2.—*Daily precipitation for September, 1911. District No. 3*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
***Tennessee*—Contd.**																						*									
Dandridge ‖	Tennessee						.68													1.10										.34	2.12
Decatur	do			T.		.90	.20	.01	.10	.02	.12	.18	T.	.01				.14	.01	.10					T.				.06		1.94
Dickson	Cumberland				.72		.24	.17	.12				.22				.24	.26				T.								1.29	3.26
Dover	do					.33		T.	T.	T.	.67		T.				.55	.34											T.	T.	1.89
Dunlap	Tennessee			.80		.11					.77	1.33					1.02	.19				.09								.04	4.35
Elizabethton ‖	do	.09				.03	.80	T.				.70			.05							.01	.52		.04				.02		2.26
Erasmus	Cumberland		T.	T.		.30				T.	.35	.01		T.			.24	T.	T.	.03		.08			.10				.02	.03	1.22
Florence	do			T.		.79			T.	.84	.18	T.					T.	.19	.17	T.		T.								.02	2.19
Franklin	do					.65				.04		T.						.49				.10								.22	1.50
Halls Hill ‖	do						1.00				.20		.24					.30					T.							T.	1.74
Harriman	Tennessee					1.23				.83	.55			.33			T.	.16	.20			.12							T.	.29		3.65
Hohenwald	do					1.54		.03		.15		1.02					.15	.06		.05		.32									.71	4.03
Iron City	do					.63	.90	.26				.05					.19	.56		.10											1.25	3.94
Jefferson City	do				.10	.42								.25			.06		.02	.20										.15	.04	1.24
Johnson City ‖	do		T.			.33	.01	.53					.26		.04							.23	.10				.01			T.	1.51
Johnsonville	do					.21		1.56				.16	.42				.08			.16		.21							T.	2.20	5.00
Kingston ‖	do	T.				T.	1.08				.20	.06			.24			T.		.09			.25						.06	T.	1.98
Knoxville	do				.12	.87				T.	T.	.02		.18			.52		.01			.13		T.				T.	.04		1.89
Lebanon	Cumberland					1.15				.32	.45	.03					.36	.11	.01	T.		.20							.06	.01	2.70
Lewisburg	Tennessee			T.		.46				.11		.18		T.			.35	.93	.58	.01		T.								.19	3.01
Livingston	Cumberland					.50											.55													.10		1.15
Loudon ‖	Tennessee				.12		.62					.40	.05		.32			.58	T.	T.			.60									2.69
Lynnville	do			.40		1.06		.04		.25	.23						T.	.34	.05	T.										.14	2.60
McGhee ‖	do						.85					T.			.11			.55	T.	.04			.20						T.	.29		2.04
McMinnville	Cumberland			T.	T.	13	1.62		.01	.01		.67					1.43	T.		T.		T.		.01					T.		3.88
Maryville	Tennessee					.50					.56	.04		T.			.75	T.													1.85
Mountain City	do					.67	.41					.82				.13	.10	.20	.09	.02		.04										2.48
Nashville	Cumberland					.96			T.	.02	.16	T.					.22	.44	.03	T.		T.								T.	.06	1.89
Newport ‖	Tennessee	.04				.34	.17	.03				T.	.12		.17				.02	.03	.20		.40								.70	2.22
New River ‖	Cumberland			T.					.15					.76						.52										.75	2.18
Palmetto	Tennessee			T.		.50				.03		.34		T.			1.10	.48	T.	T.		T.									.12	2.57
Pinewood	do				.50		T.				.47						*	3.10		.15		T.										4.22
Pope	do				1.00					1.70	T.	T.								1.00										T.		3.70
Rogersville ‖	do			T.	.03	.50					.37	.05			.13			.03	.02	.30			.56		T.	.10						2.09
Rugby	Cumberland		.30		.42	.21					.41	.02		.40			.15		.32	T.	.15	.08			T.					.22		2.68
Savannah	Tennessee																															
Sevierville	do					.66	.22					.33		.16			.26		.81											.13	.60	3.17
Sewanee	do			.10		.65						.92																			.43	2.10
Sparta	Cumberland		T.	.05		.50				.05	T.	T.		T.			.70	T.	T.	T.				.03	.88					.03		2.24
Springdale	Tennessee				.75	.55						.37		.27			.43	.05			T.											2.42
Springville	do					.77		.34	1.42	.01	.10	.08	.50	.01			.26	.26		.67											.32	4.74
Tazewell ‖	do				.86	.81						.10			.78					.67			.70				T.					3.92
Tullahoma	do					.11				.20	T.	.31					.12	.19													1.13	2.06
Walling ‖	Cumberland						.40			.55			.40					.17		.15	.02										T.	1.69
Waynesboro	Tennessee					.36				T.	T.	.75	T.	.05	.05			.30				T.									.78	2.29
Wildersville	do					1.10				.30	.19	.35	.70		.35					.30										.27	.34	3.90
Worsham ‖	Cumberland					.48			.25	.72	.09						.40		.11											.24		2.29
Yukon	Tennessee					2.50		.03									T.		T.												.80	3.33
Alabama.																																
Bridgeport ‖	Tennessee					.12	.08						1.23						.16						1.75							3.34
Decatur ‖	do						1.55		.12			.17	.99		.01																	2.84
Florence ‖	do						.80						.96																			1.76
Guntersville ‖	do					T.	.40						.72						T.	T.												1.12
Madison	do					.35		T.				.23					T.		.95													1.53
Riverton ‖	do						.73			.70		.03	.10	.12					T.	.18												1.92
Scottsboro ‖	do			T.	.05	.65						.56		T.				.32	T.		T.	T.		.22	.05						T.	1.32
Tuscumbia ‖	do						.60				.08		.26						.03	.04												1.01
Georgia.																																
Diamond	Tennessee			.06	.01	*	2.00					.70		T.	T.			T.	.02	.01	T.	.09		T.		T.						2.89
Mineral Bluff	do		.02		.06	.87					.23	.35		.02				.12		.20		1.30	.02		.07							3.32
North Carolina.																																
Altapass	Tennessee																															
Andrews	do				.24	.06	1.73			.01	.90	.50						.08	.06	.12	.01	.12		.05	.04				.05			3.97
Asheville	do				.02	.39	.12				.01	.04		.02		.01	.03	T.	.02	T.	.10	.63		.48	.02				.14	.23		2.26
Banners Elk	do			T.	.20	.45				.04	T.	.50		.04			.04		.30	.30			.30	.16		.02			.05		2.40
Brevard	do					T.	.40				.20	.15				T.	T.	.20	T.		T.	.21		5.50		.90				T.	7.65
Bryson City ‖	do	.15			.50	.25	.95			.72										.49		.40		.11	.13							3.70
Cullowhee	do				.43	.25	.78		T.	.04		.24					T.	T.	T.		.07		.04		.54	.18							2.57
Eagle Nest	do					.01	.59			.87	.67	.03						.10				.04		.02		.42		.13			.05	2.93
Hendersonville	do			.45	.50		.50			.20	.13	.12												.04		.57		.01		.11		2.63
Highlands	do				.92	.17	.42					.58				.15				.26				.12		2.00	1.06	.22				5.90
Hot Springs	do					.50	.16				.05	.30		.40			.20	.05	.20	.26				.02			.59		.24	.39	.20	3.56
Jefferson	Great Kanawha			T.	T.	T.	.38			.48		.57		.03	.03	T.	T.					2.02	.41	.11		T.			T.	.01		4.04
Marshall	Tennessee					.47	.04				.05			.26					.33	.11	.24			.39							.45	2.34
Murphy ‖	do	.01		.45	.30		1.64	.01				.38	.15		.12	.08			.07	.81	.03	.01	.10		.02	.01						4.19
Rock House	Savannah			T.	.17	.80	.10			.21	.03	.08				.39	T.	.01	.02	.08	.08	T.	1.48	.35	.57	.05	.02		.05			4.49
Waynesville ‖	Tennessee	.06					.64				.08	.56	T.		T.			.06	.11	.01		.02	.03	.60	.11	.19	.01			T.	.06	2.34
Virginia.																																
Big Stone Gap	Tennessee			T.	.15	.85						1.85		.13		T.			.83			T.	.32			.12				T.		4.25
Blacksburg	Kanawha					.15			.03	.16		.44	.13			T.	.03					.26							T.	.11		1.31
Burkes Garden	Tennessee				T.	.33	.60			.13	T.	.36				T.	.43			T.		1.40	.27		T.					T.		3.52
Elk Knob	do				.45	.49	.01		.03	.17	.01	.45		.15		.07		.05	.73	.11		.04	.27							.24		3.27
Ivanhoe	Kanawha	.23	.01				.35	.01				.21	.03				.15	.05				.30	.09	.07						T.		2.31
Lebanon	Tennessee				.05	.43				.20	.01	1.35		.05				.48	.15			T.	.14						T.			2.86
Marion	do					.17	.65				.03	1.55				.21	.53	.12		.19	.02	.03					.02		.10	T.		4.30
Max Meadows	Kanawha				T.	.30						.50					.30			T.		1.20				T.						2.30
Mendota ‖	Tennessee					.68	.40					2.10	.10		.10						.60		.40									4.38
Mountain Lake	Kanawha						.20		.70	.30	.35	.30	.30		T.	T.	.30		.10			.10	.15									2.80
Radford ‖	do	.24					T.		.60			.10	.28									.10	.12									1.44
Speers Ferry ‖	Tennessee						.20					.60					.10										.20					1.10
Wytheville	Kanawha			.02	.29						.48	.04				.04	.26					.86				.23						2.22

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for September, 1911. District No. 3.*

Date.	Pennsylvania.				West Virginia.														Ohio.							
	Greenville.		Pittsburgh.		Charleston.		Elkhorn.		Elkins.		Glenville.		Huntington.§§		Morgantown.		Parkersburg.		Wheeling.§§		Canton.§§		Cincinnati.		Columbus.		Dayton.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	86	54	83	61	83	63	82	58	81	58	85	50	81	61	81	60	84	60	86	59	86	54	90	61	86	60	88	61
2....	88	58	86	66	88	63	85	55	86	54	90	59	85	62	87	59	89	61	90	62	86	62	90	64	87	64	88	65
3....	82	56	76	60	87	64	83	57	81	57	84	60	82	64	86	65	78	62	87	62	76	57	82	67	77	60	80	62
4....	80	41	80	54	87	64	87	56	84	53	87	52	84	64	85	50	80	56	84	51	79	51	85	62	81	58	83	56
5....	72	53	77	65	85	67	85	59	82	60	84	64	82	66	83	64	79	66	83	56	72	57	76	68	74	66	77	67
6....	81	63	79	67	85	68	80	61	81	64	85	67	83	68	82	65	82	66	83	59	81	61	84	68	79	63	78	65
7....	82	59	85	65	89	67	84	62	85	61	89	64	86	67	87	60	89	63	86	65	86	61	88	65	86	60	85	62
8....	83	60	86	66	90	67	87	60	87	58	93	66	86	68	89	66	90	68	88	64	81	61	87	70	88	66	88	65
9....	85	59	81	64	90	69	85	61	72	63	82	67	82	71	79	66	82	68	83	65	85	61	85	70	81	67	84	67
10....	85	55	83	63	86	69	83	59	83	61	85	65	83	68	83	64	85	65	86	65	85	61	86	69	84	67	84	66
11....	86	60	82	66	84	68	77	63	81	61	83	66	76	70	81	63	82	66	84	65	85	61	85	68	83	68	84	65
12....	76	56	72	53	82	67	79	66	77	51	82	65	81	66	75	64	77	60	79	64	72	62	80	63	73	57	77	60
13....	64	40	61	48	80	56	77	54	63	43	70	51	68	58	67	48	65	52	67	49	66	43	72	58	65	53	68	56
14....	71	33	71	45	79	47	75	47	77	39	80	41	74	48	76	42	74	48	77	44	71	39	76	55	65	49	69	51
15....	75	57	74	62	84	64	82	58	74	60	89	62	82	52	73	62	78	67	74	46	76	51	82	71	75	64	75	68
16....	83	51	80	62	77	66	79	62	75	60	80	65	76	67	81	66	81	66	83	66	83	65	81	64	82	67	83	64
17....	84	46	78	55	83	66	79	57	80	54	85	64	78	66	83	53	83	61	83	56	85	54	82	62	82	61	83	62
18....	82	52	78	59	82	60	79	58	81	49	85	57	81	63	79	58	84	61	81	54	82	55	86	67	79	62	81	67
19....	71	51	78	59	82	66	79	60	79	61	80	63	78	65	78	62	79	62	83	58	77	61	79	64	75	59	76	59
20....	71	42	72	50	79	57	78	57	74	52	77	54	72	56	70	52	72	56	74	50	73	46	75	56	73	54	73	53
21....	74	41	80	55	85	58	78	57	78	49	85	52	81	58	83	54	84	55	83	51	77	48	76	59	75	54	75	57
22....	74	53	73	59	83	64	78	56	75	55	79	60	75	58	78	57	75	62	77	55	74	52	74	57	73	55	73	58
23....	81	46	82	57	82	59	78	60	82	49	87	57	81	59	84	59	83	58	83	54	83	51	84	60	83	57	82	55
24....	87	56	84	66	85	63	81	60	84	54	88	60	81	59	87	62	85	65	88	55	87	59	84	62	84	64	81	60
25....	75	56	81	68	85	66	80	60	80	59	85	65	82	64	83	65	84	65	85	61	79	60	77	60	80	63	78	64
26....	69	46	69	57	83	67	79	59	69	54	75	65	75	66	75	62	72	58	75	63	72	58	73	64	72	60	73	62
27....	75	42	73	55	85	60	81	58	77	55	83	57	83	59	.....	.....	83	54	79	51	71	50	87	63	81	57	84	63
28....	65	42	68	56	82	67	81	60	71	63	83	64	77	64	77	50	72	66	77	56	70	50	74	68	69	60	71	62
29....	73	53	76	58	83	67	79	64	77	57	77	67	82	68	80	60	81	58	70	57	77	54	80	58	78	54	77	53
30....	57	44	58	51	82	53	75	50	65	47	76	47	77	52	72	50	66	52	69	52	62	50	68	52	64	47	67	48
Mns..	77.2	50.8	76.9	59.1	83.9	63.4	80.5	58.5	78.0	55.4	82.8	59.9	79.8	62.6	80.1	58.9	79.9	60.9	80.9	57.2	78.0	55.2	80.9	63.2	77.8	59.9	78.8	60.7

Date.	Ohio.				Indiana.										Philo, Ill.		Kentucky.									
	Marion.		Waverly.§§		Butlerville.		Evansville.		Indianapolis.		Kokomo.		Rockville.		Worthington.				Beattyville.§§		Bowling Green.§§		Earlington.§§		Greensburg.§§		Lexington.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	90	58	85	56	90	58	87	66	88	61	88	54	89	59	90	56	91	55	88	57	90	58	93	56	88	55	86	62
2....	89	64	87	59	89	63	88	68	90	67	88	65	91	64	93	62	91	58	94	56	90	58	93	60	93	53	88	65
3....	82	61	80	62	86	64	90	69	81	66	81	60	84	65	87	65	82	63	91	57	95	59	96	65	90	56	87	68
4....	87	51	83	56	92	61	88	66	85	63	84	54	86	62	89	60	88	60	93	58	93	60	96	61	95	61	87	64
5....	77	62	75	66	84	66	82	70	77	76	76	64	77	65	80	67	81	65	78	62	82	64	84	66	80	62	76	66
6....	78	63	84	65	90	63	88	69	79	66	73	61	80	65	87	66	82	61	88	62	91	66	92	64	89	65	84	68
7....	87	61	89	59	90	66	84	69	84	66	81	61	82	65	87	66	79	63	95	62	93	65	94	67	94	61	90	68
8....	85	62	90	64	90	67	89	70	83	68	82	63	82	67	87	67	79	65	95	63	91	64	93	65	93	61	89	67
9....	80	64	84	68	87	63	84	70	79	67	76	63	78	65	80	68	79	63	89	65	91	64	88	68	88	64	85	70
10....	83	61	86	64	88	65	87	72	82	66	79	59	78	65	83	67	75	64	86	65	91	69	94	69	91	66	86	68
11....	85	64	82	67	85	63	84	70	83	68	84	57	81	65	87	69	84	61	79	65	87	68	85	67	82	67	78	68
12....	83	61	82	64	83	62	91	69	78	59	78	63	77	62	84	64	76	61	90	60	94	63	95	63	90	61	82	65
13....	72	50	68	54	75	58	84	68	73	57	86	51	73	63	75	62	73	52	78	57	90	62	93	66	81	51	68	57
14....	63	44	74	43	77	53	92	66	75	56	72	51	78	58	87	60	90	61	89	51	96	63	96	67	93	61	86	54
15....	77	60	82	62	80	68	91	70	77	71	79	69	78	71	79	72	82	71	92	53	95	64	95	74	92	62	87	69
16....	85	65	80	66	81	67	82	71	81	63	84	60	80	62	78	66	86	61	83	62	89	71	82	70	89	66	76	69
17....	86	66	80	00	82	59	84	71	79	64	80	57	78	65	82	68	82	65	87	63	89	64	90	68	87	64	81	66
18....	86	56	83	57	87	69	92	70	86	67	85	65	84	70	90	69	84	67	87	64	97	64	99	70	92	64	81	67
19....	77	63	82	59	80	65	76	62	74	56	75	61	73	60	77	64	74	56	83	62	89	65	81	68	80	63	76	62
20....	77	49	74	50	76	52	80	57	74	52	75	42	74	49	78	52	74	49	82	52	88	68	87	55	81	58	73	56
21....	73	57	83	52	76	59	74	60	72	59	67	41	67	60	71	62	69	55	88	55	89	60	80	57	82	56	77	60
22....	77	50	76	55	72	49	75	57	71	53	74	44	71	51	73	51	75	48	82	56	84	52	84	49	79	51	73	54
23....	86	50	84	53	83	55	83	58	80	55	81	48	78	54	82	52	82	50	91	54	90	55	90	51	92	51	85	60
24....	85	59	87	61	83	56	86	62	79	58	79	51	78	58	83	53	71	53	89	56	92	58	94	53	91	55	84	67
25....	80	63	84	57	76	59	76	67	76	63	72	61	76	63	75	63	76	63	87	60	94	60	94	61	92	59	82	66
26....	74	59	73	59	73	60	77	68	72	57	70	53	71	54	73	61	76	55	86	61	90	64	90	66	87	59	76	65
27....	75	52	86	55	89	60	90	67	83	62	79	57	85	63	89	61	87	64	92	60	95	62	95	63	92	59	86	62
28....	72	55	76	66	74	66	88	69	69	65	72	59	70	66	82	67	70	67	92	61	95	62	96	66	93	55	81	68
29....	74	59	83	70	81	65	81	65	74	53	73	61	73	62	76	68	74	60	83	63	88	67	82	68	79	62	79	59
30....	68	48	67	45	70	47	76	59	65	49	63	43	63	46	70	50	62	45	80	50	84	55	84	56	78	53	70	52
Mns..	79.8	57.9	81.0	59.1	82.3	60.9	84.3	66.5	78.3	61.5	77.9	56.8	77.8	61.5	81.8	62.6	79.1	59.4	87.2	59.1	90.7	62.5	90.5	63.3	87.8	59.4	81.3	63.7

TABLE 3.—*Maximum and minimum temperatures for September, 1911. District No. 3*—Continued.

Date.	Kentucky.						Tennessee.														Decatur, Ala.§§		Asheville, N. C.		Virginia.			
	Louisville.		Maysville.§§		Williamsburg.§§		Chattanooga.		Johnson City.§§		Knoxville.		Nashville.		Palmetto.		Sparta.		Waynesboro.						Big Stone Gap.		Wytheville.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	90	63	91	56	90	61	88	64	92	63	87	65	85	61	87	57	86	59	85	62	87	58	83	62	83	54	80	54
2....	90	65	94	57	95	60	90	72	95	61	91	65	89	64	91	62	90	63	88	64	90	59	84	59	85	58	84	54
3....	90	69	88	60	88	67	87	68	97	67	89	71	90	69	88	63	85	66	90	67	89	67	81	63	83	63	80	63
4....	89	66	93	60	90	65	87	65	82	63	89	67	89	66	87	63	83	63	87	67	90	67	80	62	86	63	82	57
5....	77	71	77	60	87	67	87	68	82	62	85	67	84	67	85	69	84	67	87	69	87	71	77	63	80	63	77	62
6....	89	67	89	63	90	66	88	68	86	65	85	67	90	70	91	66	85	67	89	67	89	68	80	61	82	65	80	62
7....	92	70	95	62	94	64	90	66	94	62	89	66	89	66	89	65	90	63	92	66	88	69	86	57	85	61	86	57
8....	91	68	95	63	95	63	92	66	92	64	92	66	91	69	93	66	91	62	91	67	91	70	84	60	83	62	85	58
9....	84	69	89	64	91	66	89	68	92	65	90	70	84	70	92	68	88	64	91	67	91	70	83	62	81	65	81	61
10....	90	70	91	66	89	67	90	69	93	68	89	67	90	70	92	68	88	65	91	68	91	70	84	63	84	63	85	62
11....	84	71	88	69	86	63	83	71	87	69	85	70	84	70	86	71	84	68	89	69	89	70	79	65	81	68	78	65
12....	88	68	84	65	89	66	89	69	87	66	88	68	92	68	94	66	88	69	92	67	90	69	81	66	80	63	80	63
13....	70	62	75	56	82	64	88	69	82	63	81	65	86	67	90	66	86	66	90	64	91	70	79	59	76	64	72	51
14....	92	60	76	48	94	61	90	66	88	59	89	65	93	69	93	68	91	64	93	69	92	69	74	56	81	58	71	50
15....	90	74	89	51	92	67	91	69	88	63	87	68	92	76	92	71	91	69	91	70	92	70	85	55	82	63	78	52
16....	80	71	82	67	89	68	90	70	88	66	86	68	89	70	93	71	88	66	91	67	91	69	84	59	82	64	78	64
17....	86	71	86	61	88	68	85	67	80	68	85	67	85	69	85	68	85	65	92	67	93	70	76	63	81	67	79	58
18....	91	70	82	63	87	66	86	69	85	68	86	69	92	70	89	68	87	67	90	68	93	70	73	61	80	65	76	53
19....	80	64	82	63	83	67	84	67	83	63	84	68	82	70	88	67	83	68	89	67	87	71	80	61	80	64	81	57
20....	78	57	80	51	84	60	88	68	89	65	86	68	83	65	89	69	85	65	87	64	87	68	82	63	79	62	80	60
21....	77	62	80	52	87	60	87	68	88	64	89	67	83	65	85	61	83	57	88	65	89	68	83	62	82	59	76	61
22....	74	56	79	53	85	64	85	66	90	64	84	67	80	60	85	55	83	64	89	61	82	58	83	63	78	64	78	61
23....	86	57	92	56	90	59	82	64	89	62	87	65	87	59	91	51	86	57	90	53	88	63	70	64	80	59	75	59
24....	86	62	89	57	88	61	85	67	89	61	85	65	89	65	90	61	86	66	87	59	88	63	77	63	81	60	81	60
25....	79	64	87	58	92	60	88	67	85	60	86	69	90	66	93	60	87	63	89	62	89	67	78	62	79	63	81	60
26....	76	67	77	59	87	64	89	66	83	61	87	64	88	68	93	60	87	63	92	62	93	66	80	61	78	63	77	60
27....	90	63	91	57	92	61	90	67	91	59	90	63	92	67	96	62	91	61	94	63	93	66	85	60	83	60	82	59
28....	81	69	82	58	91	63	92	69	93	65	90	70	92	69	95	62	90	65	92	66	95	66	84	61	84	62	81	62
29....	82	64	86	66	87	65	91	73	81	66	90	71	90	72	95	64	90	65	93	68	92	67	82	60	80	64	78	62
30....	76	56	75	50	85	52	86	69	81	59	83	64	84	65	86	64	84	61	88	66	89	69	82	64	76	66	77	55
Mean.	84.3	65.5	85.5	59.0	88.9	63.5	87.9	67.8	87.7	63.7	87.1	67.1	87.8	67.4	90.1	64.4	86.8	64.3	89.9	65.4	89.9	67.3	80.6	61.3	81.2	62.5	79.3	58.7

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1911.

DISTRICT No. 4, THE LAKE REGION.

Prof. HENRY J. COX, District Editor.

GENERAL SUMMARY.

The chief characteristics of the weather of September, 1911, in the Lake region were the rapidity in passage of storm areas across the district and the consequent sharp alternation of warm and cool periods, the remarkable frequency of precipitation throughout the entire month, and the extreme earliness of killing frosts and freezing temperatures over the eastern sections.

The storm movement, in its general features, was such as is experienced most frequently in the months of midwinter. For the most part, areas of both high and low barometric pressure, to the number of about 17, held well to the northern limits of the upper lakes in their rapid sweep eastward, the former turning to the southeast across the Ontario peninsula and passing over the eastern highlands to the Atlantic coast, the latter traversing the St. Lawrence Valley to the ocean. As a result, the northwestern and extreme eastern sections suffered the severest weather of any throughout the district, while the southcentral and southwestern portions were comparatively free from conditions of low temperature and occurrence of frost.

The amount of sunshine was quite deficient along the southwestern shore of Lake Michigan, but increased to about normal over the eastern portions of the Lake region, where the diurnal oscillation in temperature averaged greatest, owing to the influence of the passing high pressure areas, as referred to above. There was, in general, a larger number of rainy days than is usual for September. With a few exceptions, moreover, the month was free from destructive storms or extraordinary phenomena.

The following table summarizes the chief features of meteorological interest in the various portions of the district:

Portions of States lying within district No. 4.	Mean temperature.	Departure from normal.	Mean precipitation.	Departure from normal.	Greatest precipitation in 24 hours.	Number of days—				Prevailing wind direction.
						with 0.01 inch or more.	Clear.	Partly cloudy.	Cloudy.	
Minnesota	53.0	−2.2	4.03	+0.44	2.05	14	9	11	10	w.
Wisconsin	59.6	−0.7	5.14	+2.34	2.73	11	12	8	10	se.
Illinois	67.0	+2.4	4.03	+1.01	1.16	16	9	11	10	ne.
Indiana	65.5	+0.4	3.92	+0.99	1.80	12	12	6	12	ne.
Upper Michigan	54.8	−0.8	2.77	−0.77	1.60	9	13	6	11	w.
Lower Michigan	61.1	−0.4	4.01	+1.32	2.26	10	12	7	11	sw.
Ohio	66.1	+1.2	3.97	+1.17	3.65	10	13	8	9	sw.
Pennsylvania	64.2	+0.3	4.14	+0.65	1.51	10	8	12	10	s.
New York	58.7	−1.8	3.42	+0.40	4.15	11	13	9	8	w.
Vermont	56.4	−1.8	3.53	+0.40	1.16	13	12	9	9	s.

TEMPERATURE.

Along the immediate shore of Lake Michigan from Green Bay southward, throughout the Indiana, Ohio, and Pennsylvania portions of the district, and at many stations in the southern counties of lower Michigan, the mean temperature of the month was above the seasonal average, but the departures did not exceed 3° in any case, and generally were less than 2°. Elsewhere in the Lake region the mean monthly temperature was as a rule deficient, but did not fall below the normal by more than 3°, except at a few stations in the Lake Superior region and in the extreme northern portions of New York State and lower Michigan.

Four periods of warm and an equal number of cool weather passed across the district during the month, as a result of the rapid storm movement. Warm spells occupied the 1st–2d, 9th–11th, 15th–18th, and 22d–24th, and cool weather the remaining portions of the month. At no time, however, was the heat excessive for September, as indicated by the departures from the daily mean temperatures, these departures reaching in no instance +15°; yet practically all portions of the district except the extreme northern and eastern sections experienced maximum temperatures of more than 90°. Generally the highest temperatures occurred on either the 1st or 2d, but around the western end of Lake Superior and at some stations in the Michigan peninsulas the highest readings were not observed until the middle of the second decade.

As was the case with the maximum temperatures, the greatest cold of the month was not experienced over the western sections of the district until about two weeks after its occurrence to the south and east of Lakes Erie and Ontario. The cool spell of the 12th–14th was occasioned by an area of high barometric pressure which passed north of the upper lakes on the 12th and 13th. Curving in its path thence southeastward, it was central over New York State on the night of the 13th–14th and the accompanying clear skies and still cool air conduced to such rapid radiation as to lower the surface temperatures in many localities to the freezing point or below. Heavy and killing frosts occurred throughout the eastern sections in New York and Vermont, and much damage was done to exposed crops, such as corn, potatoes, and tomatoes. Although cool weather was general during this period, the western sections of the Lake region escaped destructive frosts because of the northerly path of the anticyclonic area and the closely following depression; but under the influence of high atmospheric pressures during the last few days of the month the minimum temperatures of the period were experienced, and heavy and killing frosts were general in the regions around Lake Superior.

The absolute range in temperature was 77°, from 97° on the 2d, at Port Austin, in lower Michigan, to 20° on the 28th, at Humboldt, in upper Michigan.

PRECIPITATION.

Over much of the sections lying immediately to the south of Lake Superior, the extreme northern counties of the lower peninsula of Michigan, and in general throughout

the Canadian Provinces of the Lake region, the precipitation of September, 1911, was somewhat deficient in amount; but over the remaining portions of the district the monthly amounts were greater than the normal, the excess ranging from +0.40 inch over the Champlain Valley to +2.34 inches over eastern Wisconsin, where the heaviest September rainfall of the past 10 years was experienced.

Precipitation was frequent in all portions of the district throughout the month, and the number of rainy days was considerably greater than the average for September. There were few sharp divisions in the times of occurrence of rainfall, but yet the rainy periods conformed roughly to the intervals during which cool weather was prevalent. Rain was especially frequent and heavy throughout the last week of the month, which was a persistently cold and disagreeable period, but heavy rains occurred in many localities on the 14th and 15th, and in the eastern sections on the 5th and 6th as well.

Snow squalls occurred on the 29th in portions of the Adirondack region and in Vermont, and a trace of snow was recorded at Stephens Mine, Minn.

SEVERE STORMS.

During the early morning hours of September 7 a severe squall swept the shore of Lake Michigan at Chicago, badly damaging a number of yachts and smaller craft that were anchored within the breakwater. The storm was quite local in character. An anemometer is maintained by the Weather Bureau at the Chicago Life-Saving Station, near the point where the greatest force of the squall was felt, and the register of the instrument showed a maximum wind velocity of 56 miles an hour at 1.45 a. m. At the Weather Bureau office in the city, however, barely 1¼ miles distant, the maximum velocity was but 34 miles an hour, and occurred at 1.49 a. m. The course of the squall was such as to produce an on-shore wind at the time of greatest velocity, and to this fact much of the damage was evidently due.

Following the passage of a severe thunderstorm, between 8.30 and 9.30 o'clock on the night of September 11, accompanied by moderate fluctuations of barometric pressure, a pronounced seiche occurred along the southwestern shore of Lake Michigan. The water rose about 6 feet in the Jackson Park Harbor at Chicago, rushing in with great force, and tore many yachts from their moorings. The craft were crushed together in many instances by the swirl of the inrush, and either thrown upon the beach or drawn out into the lake as the waters receded. Nearly 160 yachts were anchored within the harbor at the time, and but few escaped damage of greater or lesser extent. The seiche was noticeable southward along the lake front and beyond the harbor at South Chicago, some damage occurring at that point. Northward from Jackson Park, however, there was no unusual movement of the lake's surface at any of the points of observation, so the phenomenon was evidently a direct result of the barometric fluctuations which accompanied the thunderstorm, as this storm passed south of the main portion of the city and apparently near the region of greatest disturbance of water level.

The rains in the eastern counties of Ohio on the 14th and 15th were unusually heavy, a number of stations in that region reporting 24-hour falls of between 3 and 4 inches. Referring to the situation, Mr. J. Warren Smith, section director at Columbus, says in his report:

> The excessive rain caused the small streams in that part of the State to overflow and do much damage in the lowlands. A number of bridges were destroyed, corn and other late crops were washed away, and some stock drowned. Traffic on electric and steam railroads, as well as on public highways, was delayed by washouts and the destruction of bridges. At Akron the damage to one manufacturing company was estimated at $12,000 and to a lumber company at $3,000. The loss of crops along the many small streams will probably be much more than that.
>
> The lightning that accompanied the rain storm of the 14th–15th was severe, but reports of damage by it have been received from only a few places in this district. In the vicinity of Ashtabula nearly a dozen buildings were struck, and in Summit County 5 barns were struck and destroyed.
>
> A dam that was constructed to protect the Erie Railroad near Akron burst on the 16th, allowing a large volume of water to sweep down over the valley below. About 150 feet of the Erie roadbed and 200 feet of the Northern Ohio Traction Co.'s line were washed away and considerable damage was done to the farms that lay in the path of the flood.

Severe local storms occurred also at Medina, N. Y., on the 12th, and at Chicago, Ill., on the 18th, causing considerable damage to buildings and trees. Heavy squalls occurred in a few other localities over the district, with high-wind velocities, but no material damage has been reported. Thunderstorms were most numerous over the extreme southwestern sections of the Lake region, where an average number of 9 occurred during the course of the month. The northern and eastern sections were comparatively free from storms of this character, notwithstanding the frequency of showery conditions.

MISCELLANEOUS.

Fog.—As a rule, not much fog occurred in district No. 4 during September, 1911, except in the vicinity of western Lake Superior, in the interior of southern Michigan, and at the eastern end of Lake Ontario, where 5, 5, and 10 days with fog were noted, respectively.

On the evening of September 10 a very dense fog prevailed at Grand Rapids, Mich., extending westward nearly to the shore of the lake, and was the immediate cause of a wreck on an interurban railway, near Fruitport, which resulted in the injury of about 30 persons.

During a dense fog at Port Huron, Mich., on the 22d, the steamer *Phipps* collided with the steamer *Joliet*, while the latter was lying at anchor in the river, sinking her almost instantly. Before hauling up, the *Phipps* also collided with the steamer *Alpena*, damaging her bow to some extent.

Auroras were observed at Erie, Escanaba, and Sault Ste. Marie on the 19th, and at Canton and Northfield on the 26th. The former was reported from other localities as well, and was described as of unusual brilliancy.

ERRATUM.

In the last paragraph of the report for July, 1911, under the caption "Snow," the last sentence was omitted. The paragraph should be made to read:

> Snow was reported to have fallen at Bay City, Mich., and at Grayling, Mich., on the 24th, the amount at the latter place being 1 inch or more. The report, although widely copied in the press, has no foundation in fact, as snowfall would have been impossible under the temperature conditions prevailing at the time.

SEPTEMBER, 1911, LAKE LEVELS.

The following data, from the report of the United States Lake Survey Office, relative to the water levels of the Great Lakes during the month, are reproduced here because of their value to various interests in the district:

Mean September level above tidewater at New York.

	Feet.
Lake Superior	602.20
Lakes Michigan-Huron	579.63
Lake Erie	571.53
Lake Ontario	244.91

Lake Superior is 0.05 foot higher than last month, 0.24 foot higher than a year ago, 0.69 foot below the average stage of September of the last 10 years, 1.88 feet below the high stage of September, 1869, and 0.71 foot above the low stage of September, 1879.

Lakes Michigan-Huron are 0.49 foot lower than last month, 0.62 foot lower than a year ago, 1.35 feet below the average stage of September of the last 10 years, 3.80 feet below the high stage of September, 1876, and 0.12 foot below the low stage of September, 1896.

Lake Erie is 0.09 foot lower than last month, 0.49 foot lower than a year ago, 0.90 foot below the average stage of September of the last 10 years, 2.41 feet below the high stage of September, 1876, and 0.25 foot above the low stage of September, 1895.

Lake Ontario is 0.28 foot lower than last month, 0.79 foot lower than a year ago, 1.32 foot lower than the average stage of September of the last 10 years, 2.70 feet below the high stage of September, 1862, and 0.91 foot above the low stage of September, 1895.

TABLE 1.—*Climatological data for September, 1911. District No. 4, Lake Region.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Minnesota.																				
Cloquet	Carlton	800	....	52.6	.....	80	17	27	30	39	3.10	.....	1.53	0	13	9	7	14	w.	S. B. Detwiler.
Duluth	St. Louis	1,133	40	53.2	− 3.5	77	22	35	30	32	3.35	− 0.20	1.72	0	14	6	13	11	ne.	U. S. Weather Bureau.
Floodwood	do	1,257	6	.....	.....	.....	.....	.....	.....	.....	3.20	.....	1.20	0	8	16	0	14	nw.	M. H. Schussler.
Stephens Mine	do	1,500	4	51.8	.....	80	16	27	12†	42	4.13	.....	1.34	T.	15	12	17	1	w.	Oliver Iron Mining Co.
Two Harbors	Lake	614	17	54.6	− 1.6	82	15	34	30	36	7.00	+ 2.52	2.05	0	14	5	15	10	ne.	G. W. Watts.
Virginia	St. Louis	1,434	17	52.8	− 1.6	80	16	29	12†	37	3.41	− 1.01	1.21	0	17	7	12	11	w.	Oliver Iron Mining Co.
Wisconsin.																				
Appleton	Outagamie	795	10	61.3	− 0.9	91	1	37	26†	32	6.30	+ 3.58	2.21	0	12	18	5	7	se.	Wm. O. Thiede.
Ashland	Ashland	647	20	56.1	− 4.3	85	17	30	28	35	3.79	+ 0.66	1.48	0	12	16	5	9	ne.	Sam Wheeler.
Bayfield	Bayfield	635	2	56.7	.....	80	15	39	26	31	4.26	.....	2.01	0	10	8	10	12	ne.	John P. Kiel.
Cecil	Shawano	804	13	59.0	− 0.4	86	17†	31	26	42	5.50	+ 2.62	1.33	0	10	11	13	6	sw.	Louis W. Schmidt.
Florence	Florence	1,293	20	55.2	− 1.4	81	1	25	28	31	2.56	− 0.71	0.54	0	7	15	4	11	n.	Fred S. Evans.
Fond du Lac	Fond du Lac	800	25	61.2	0.0	92	1	32	26	43	3.26	+ 0.40	1.03	0	10	14	6	10	sw.	Geo. W. Marshall.
Grand River Locks	Marquette	770	15	61.2	.....	90	1	30	30	40	4.35	+ 0.49	1.35	0	11	18	6	6	s.	Jerry Parkinson.
Green Bay	Brown	617	25	59.6	+ 0.5	88	1	38	26	29	5.16	+ 2.04	1.61	0	14	6	10	14	se.	U. S. Weather Bureau.
Iron River	Bayfield	1,096	2	55.4	.....	85	17†	31	28	44	4.37	.....	1.15	0	16	15	4	11	s.	Winfield E. Tripp.
Kewaunee	Kewaunee	590	2	59.7	.....	88	1	39	30	30	6.19	.....	1.50	0	11	9	6	15	se.	Eugene V. Kimball.
Manitowoc	Manitowoc	616	60	60.3	+ 0.5	82	1	39	26	25	5.78	+ 3.67	2.35	0	9	8	8	14	se.	Johanna Lups.
Menasha	Winnebago	764	14	.....	.....	.....	.....	.....	.....	.....	9.12	+ 6.05	2.73	0	9	18	2	10	se.	Geo. T. Allanson.
Menomonee Falls	Waukesha	842	2	61.7	.....	87	1	40	26†	32	6.46	.....	1.87	0	10	13[a]	8[a]	8[a]	s.	Arthur H. Christman.
Milwaukee	Milwaukee	681	40	63.4	+ 1.9	86	16	45	26	27	4.31	+ 1.39	1.15	0	15	11	8	11	ne.	U. S. Weather Bureau.
New London	Outagamie	762	15	59.4	− 1.2	89	1	33	30	33	6.24	+ 2.95	1.72	0	8	10	7	13	ne.	August H. Pape.
Oconto	Oconto	590	20	59.2[a]	− 1.6	88[a]	1	32[a]	26	32[a]	5.93	+ 2.93	1.50	0	12	11	15	4	se.	Wm. K. Smith.
Oshkosh	Winnebago	744	22	61.0	− 1.5	92	1	35	26	37	5.61	+ 2.95	1.25	0	10	17	6	7	se.	Evan Vincent.
Pine River	Waushara	900	16	60.0	− 1.1	89	1	34	30	33	6.20	+ 3.24	1.40	0	13	9	14	7	se.	Geo. H. Carpenter.
Plum Island	Door	588	3	58.8	.....	84	1	39	26	34	3.55	.....	0.57	0	11	10	9	11	se.	Geo. C. Robinson.
Plymouth	Sheboygan	843	1	60.6	.....	88	1	39	26	28	5.33	.....	1.25	0	14	11	9	10	s.	Paul O. Feldrappe.
Port Washington	Ozaukee	713	18	62.4	+ 1.2	85	11	40	26	28	4.77	+ 1.76	1.10	0	13	12	5	13	se.	Richard C. Kann.
Racine	Racine	633	14	64.4	+ 0.1	89	16	42	26	37	4.99	+ 1.36	1.28	0	10	17	2	11	se.	Daniel Davis.
Ripon	Fond du Lac	935	1	.....	.....	.....	.....	.....	.....	.....	3.32	.....	1.48	0	9	13[a]	5[a]	11[a]	sw.	Ripon College.
Sheboygan	Sheboygan	831	12	62.0	0.0	83	1	40	26	27	5.83	+ 2.73	1.40	0	10	11	10	9	se.	Louis C. Meyer.
Sturgeon Bay	Door	600	12	57.8	− 2.0	87	1	33	26†	35	5.10	.....	0.89	0	14	11	11	8	se.	Adam N. Dier.
Superior	Douglas	671	2	53.6	.....	79	22	34	30	30	3.25	.....	1.66	0	14	15	4	11	sw.	Edward B. Banks.
Waupaca	Waupaca	857	16	59.0	− 1.9	90	1	31	30	38	7.28	+ 4.03	1.38	0	14	10	10	10	se.	James H. Flagg.
Illinois.																				
Chicago	Cook	824	41	67.0	+ 2.4	86	2	51	30	24	4.03	+ 1.01	1.16	0.0	16	9	11	10	ne.	U. S. Weather Bureau.
Highland Park	Lake	691	....	.....	.....	.....	.....	.....	.....	.....	3.82	+ 0.66	1.33	0.0	5	.....	.....	.....	.....	Jesse L. Smith.
Indiana.																				
Auburn	DeKalb	874	15	64.0	+ 1.3	91	2	40	30	40	3.05	+ 0.40	1.15	0	11	10	3	17	sw.	Mrs. Josie B. Kuhlman.
Berne	Adams	849	2	67.5	.....	89	1†	42	30	34	3.15	.....	0.87	0	13	16	9	5	ne.	Henry M. Reusser.
Elkhart	Elkhart	801	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Miles Medical Co.
Ft. Wayne	Allen	775	15	66.4	+ 0.9	89	2	48	30	30	3.30	+ 0.09	1.20	0	12	9	8	13	sw.	U. S. Weather Bureau.
Hammond	Lake	598	20	66.0	+ 0.4	94	1	38	30	39	5.97	+ 3.13	1.80	0	10	5	13	12	.....	Carson W. Whitney.
Howe	Lagrange	886	6	64.2	.....	90	2	41	28	37	3.48	.....	0.98	0	7	15	0	15	.....	James E. Zook.
South Bend	St. Joseph	756	18	64.7	− 0.9	88	1†	44	30	33	3.36	+ 0.33	0.80	0	18	15	1	14	se.	Henry H. Swaim.
Whiting	Lake	606	2	65.6	.....	82	11†	49	22†	25	5.10	.....	1.09	0	13	12	7	11	ne.	D. H. Boyd.
Michigan—Upper Peninsula.																				
Baraga	Baraga	623	9	.....	.....	.....	.....	.....	.....	.....	1.90	− 0.23	0.80	0	5	12	0	18	w.	D., S. S. & A. Ry.
Bergland	Ontonagon	1,300	1	53.8	.....	79	22	23	28	38	3.77	.....	1.40	0	6	14	13	3	s.	Frank McMonigal.
Blaney	Schoolcraft	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Calumet	Houghton	1,246	23	52.8	− 2.6	79	22	32	28	30	3.36	− 0.43	1.16	0	11	21	4	5	w.	E. S. Grierson.
Chatham	Alger	875	10	52.6	− 2.4	83	1	21	28	38	2.82	− 1.19	0.93	0	12	13	7	10	n.	U. P. Experiment Sta.
Deer Park	Luce	610	10	56.0	− 0.3	82	5†	30	28	37	1.85	− 1.04	1.60	0	3	16	2	12	s.	Mrs. Sara E. McGaw.
Detour	Chippewa	585	10	56.8	.....	83	1	32	28	32	2.65	.....	1.30	0	5	20	2	8	nw.	Linton Melvin.
Eagle Harbor	Keweenaw	622	12	54.2	− 1.8	80	22	31	28	30	2.78	− 0.63	1.30	0	6	10	15	5	w.	John Nolen.
Escanaba	Delta	612	38	56.0	− 0.9	80	15	33	28	27	3.78	+ 0.20	1.08	0	13	10	9	11	s.	U. S. Weather Bureau.
Ewen	Ontonagon	1,147	10	51.7	− 3.3	81	17	20	28	35	3.47	+ 0.64	1.30	0	10	12	0	18	sw.	W. B. Hatfield.
Grand Marais	Alger	610	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Lena Truedell.
Green O	Ontonagon	622	0	.....	.....	85	6	.....	.....	.....	3.34	.....	1.19	0	4	14	6	10	.....	T. A. Green.
Houghton	Houghton	668	10	54.4	− 2.3	82	22	32	28	32	2.61	− 0.93	0.87	0	12	11	6	13	w.	U. S. Weather Bureau.
Humboldt	Marquette	1,536	14	53.7	+ 0.5	79	1	20	28	43	1.28	− 2.30	0.52	0	3	12	0	17	w.	D., S. S. & A. Ry.
Iron Mountain	Dickinson	1,111	10	57.4	+ 1.1	87	23	29	28	41	2.34	− 0.53	0.52	0	9	15	5	20	nw.	Chapin Mining Co.
Iron River	Iron	1,504	14	53.2	− 1.3	80	1†	23	28	41	3.80	+ 0.02	0.70	0	11	15	5	10	sw.	Victor D. Laing.
Ironwood	Gogebic	1,520	8	55.2	+ 1.3	80	17	30	28	29	2.78	− 0.77	1.52	0	10	16	3	11	s.	J. V. Brennan.
Ishpeming	Marquette	1,536	11	53.6	− 1.7	78	1	25[c]	28	32[c]	3.25	− 0.36	0.60	0	13	9	13	8	w.	Cleveland Cliffs Iron Co.
Isle Royale	Keweenaw	610	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. A. Malone.
Mackinac Island	Mackinac	831	10	57.0	− 1.2	78	1	33	28	30	2.76	− 2.70	0.92	0	9	7	6	17	e.	M. I. S. P. Comm.
Maple Ridge	Delta	.....	5	54.4	.....	82	1	24	28	36	2.76	.....	0.58	0	8	15	2	13	s.	Harman Johnson.
Marquette	Marquette	734	40	55.6	− 1.2	81	15	34	28	33	2.39	− 1.12	0.72	0	12	6	11	13	s.	U. S. Weather Bureau.
Menominee	Menominee	581	12	59.2	− 0.4	88	1	36	26	28	4.47	+ 1.11	0.82	0	12	17	4	9	sw.	Chicago & Northwestern Ry.
Munising	Alger	631	14	55.4	0.0	78	1	29	28	31	2.36	− 0.24	0.56	0	11	11	10	9	s.	Albert Oas.
Newberry	Luce	773	9	54.6[a]	+ 1.8	82[a]	1	27[a]	28	33[a]	1.49[a]	− 1.05	0.33[a]	0	10[a]	6[a]	11[a]	12[a]	n.	John Brown.
Powers	Menominee	868	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. & N. Ry.
St. Ignace	Mackinac	593	21	57.6	+ 0.9	75	1	38	27†	28	1.57	− 1.13	0.36	0	10	12	11	7	w.	D., S. S. & A. Ry.
Sault Ste. Marie	Chippewa	614	23	53.5	− 0.8	78	1	29	28	35	1.83	− 1.63	0.50	0	14	8	10	12	se.	U. S. Weather Bureau.
Thomaston	Gogebic	1,347	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D., S. S. & A. Ry.
Victoria	Ontonagon	1,263	1	54.3	.....	83	17	28	28	31	4.38	.....	1.12	0	14	15	7	8	nw.	R. S. Schultz, jr.
Watersmeet	Gogebic	.....	2	53.3	.....	80	17	22	28	41	2.95	.....	0.51	0	14	8	9	13	ne.	B. N. Grant.
Whitefish Point	Chippewa	610	21	54.6	− 1.3	77	15	34	27	31	1.96	− 1.94	0.50	0	9	17	5	8	nw.	Robert Carlson.
Michigan—Lower Peninsula.																				
Adrian	Lenawee	770	33	64.4	− 0.7	93	1	41	13	37	4.06	+ 0.70	1.25	0	10	6	8	16	n.	B. F. Gibbs.
Allegan	Allegan	698	20	64.4	+ 1.8	92	1†	41	28	45	5.89	+ 2.92	1.11	0	12	5	10	15	w.	Pere Marquette R. R.
Alma	Gratiot	750	24	59.6	− 1.2	89	1	34	28	38	5.36	+ 2.08	1.06	0	14	7	15	8	sw.	P. M. Smith.
Alpena	Alpena	609	38	57.2	− 0.1	88	1	37	26	34	1.89	− 1.59	0.39	0	11	7	14	9	nw.	U. S. Weather Bureau.

TABLE 1.—*Climatological data for September, 1911. District No. 4*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Michigan—Lower Peninsula—Continued.																				
Ann Arbor	Washtenaw	930	31	63.8	+ 1.0	92	2	41	14	32	3.95	+ 1.32	1.46	0	14	10	7	13	nw.	University of Michigan.
Arbela	Tuscola	728	15	61.0	− 1.7	88	2	35	28	35	4.75	+ 1.95	1.47	0	12	4	11	15	sw.	Wm. Atkin.
Battle Creek	Calhoun	822	27	63.4	− 0.4	89	1	41	28	35	4.46	+ 1.71	1.48	0	11	13	5	12	nw.	Elmer E. Sager.
Bay City	Bay	593	15	61.6	− 0.3	91	1	39	30	40	7.85	+ 4.32	1.50	0	16	13	8	9	nw.	Pere Marquette R. R.
Benzonia	Benzie	832	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Martin S. Joiner.
Berlin	St. Clair	.....	22	61.8	0.0	91	1	34	14	39	5.20	+ 2.35	2.26	0	14	6	14	10	nw.	R. O. Gould.
Big Rapids	Mecosta	906	15	58.6	− 1.0	88	1	33	28	41	4.70	+ 1.55	1.18	0	15	13	8	9	w.	Charlie Gay.
Bloomingdale	Van Buren	.....	7	63.3	.....	88	1	42	28	31	4.49	.....	1.00	0	10	15	4	11	nw.	John M. Haven.
Cadillac	Wexford	1,293	2	58.9[a]	.....	83[a]	1	31[a]	26	31[a]	3.33[a]	.....	0.88[a]	0	9[a]	14[a]	4[a]	11[a]	n.	Cadillac W. & L. Co.
Cassopolis	Cass	903	10	.....	.....	.....	.....	.....	.....	.....	4.95	+ 1.67	2.00	0	6	19	0	11	w.	Michigan Central R. R.
Charlevoix	Charlevoix	610	33	57.6	− 3.1	84	1	35	27†	34	3.21	− 0.13	0.76	0	8	14	5	11	nw.	Pere Marquette R. R.
Charlotte	Eaton	.....	7	63.2	.....	89	2	34	24	46	5.72	.....	1.20	0	9	11	1	18	nw.	City of Charlotte.
Cheboygan	Cheboygan	611	21	56.6	− 3.3	85	1	28	28†	36	1.70	− 1.19	0.70	0	4	9	12	9	s.	E. A. Bouchard.
Clinton	Lenawee	830	21	65.4	+ 1.7	91	2	41	14	40	4.02	+ 1.43	1.60	0	7	13	8	9	sw.	David Woodward.
Coldwater	Branch	984	14	65.6	+ 1.3	90	2	44	20	33	3.73	+ 0.62	0.70	0	10	16	5	0	s.	L. S. & M. S. R. R.
Concord	Jackson	.....	6	64.0	.....	88	1†	42	20†	34	4.54	.....	1.95	0	10	11	16	3	sw.	W. N. Armstrong.
Croton	Newaygo	685	3	61.6	.....	88	1	36	28	37	5.26	.....	1.00	0	11	6	15	9	sw.	G. R. M. P. Co.
Detroit	Wayne	730	40	64.2	+ 1.1	89	2	44	28	28	4.32	+ 1.84	1.59	0	14	12	6	12	n.	U. S. Weather Bureau.
Durand	Shiawassee	799	4	62.8[d]	.....	85[d]	5	40	12	42	.....	.....	.....	0	.....	4[e]	0[e]	21[e]	sw.	H. J. Tobin.
East Tawas	Iosco	590	14	58.1	− 2.3	87	1	36	28	35	2.93	+ 0.78	0.60	0	10	17	3	10	sw.	D. & M. R. R.
Eloise	Wayne	640	14	64.6	+ 0.4	92	2	38	14	34	5.20	+ 2.68	1.70	0	13	14	5	11	s.	John Gilmore.
Flint	Genesee	730	22	60.8	− 0.7	84	1	39	28	31	4.00	+ 1.43	1.12	0	13	9	6	15	w.	William L. Fisher.
Frankfort	Benzie	589	7	59.0	.....	79	17	40	29	25	3.87	.....	1.20	0	9	15	0	15	s.	Geo. Morency.
Ganges	Allegan	665	2	62.2	.....	84	1	42	26†	31	5.29	.....	1.32	0	13	12	5	13	sw.	H. H. Hutchins.
Gaylord	Otsego	1,367	11	56.2	− 0.4	79	1	37	21	27	.....	.....	.....	0	.....	11	0	19	sw.	Michigan Central R. R.
Gladwin	Gladwin	794	15	59.0	− 0.2	92	1	33	27	44	7.25	+ 4.55	1.60	0	8	17	2	11	s.	Geo. R. Smith.
Grand Haven	Ottawa	628	30	60.4	− 0.7	84	17	40	28	32	5.88	+ 2.71	1.77	0	12	12	9	9	e.	U. S. Weather Bureau.
Grand Rapids	Kent	707	22	62.4	+ 0.6	89	1	40	28	31	7.58	+ 4.46	1.80	0	11	10	8	12	se.	Do.
Grape	Monroe	625	21	64.8	+ 0.5	91	2	40	14	33	4.33	+ 1.35	1.56	0	10	13	6	11	sw.	Joseph W. Morris.
Grass Lake	Jackson	989	5	63.8	.....	91	2	40	28	34	2.68	.....	1.20	0	7	12	1	17	w.	Menzo Conklin.
Grayling	Crawford	1,147	21	57.3	− 1.2	87	2	26	28	50	3.38	+ 0.41	0.83	0	14	14	4	12	ne.	S. N. Insley.
Harbor Beach	Huron	635	23	58.8	− 2.4	90	1	30	14	40	2.10	− 0.13	0.30	0	10	16	5	9	e.	Pere Marquette R. R.
Harrison	Clare	1,159	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
Harrisville	Alcona	616	27	58.6	− 0.8	92	1	28	4†	58	.....	.....	.....	0	.....	17	5	8	nw.	D. W. Mitchell.
Hart	Oceana	698	19	.....	.....	.....	.....	38	15	.....	6.22	+ 3.33	1.82	0	7	5	22	3	sw.	Pere Marquette R. R.
Hayes	Huron	620	21	59.3	− 2.3	83	16	40	13†	33	4.38	+ 1.83	1.00	0	11	11	10	9	ne.	C. F. Leipprandt.
Highland	Oakland	830	19	.....	.....	.....	.....	.....	.....	.....	5.33	+ 2.52	1.65	0	9	.....	.....	.....	.....	A. D. De Garmo.
Hillsdale	Hillsdale	1,150	14	64.0	+ 0.9	88	2	42	20	35	4.25	+ 1.67	0.71	0	10	15[b]	2[b]	11[b]	nw.	C. L. Herron.
Holland	Ottawa	610	5	62.2	.....	86	17	41	26	36	5.47	.....	1.53	0	12	12	12	6	nw.	City of Holland.
Howell	Livingston	924	19	61.8	− 1.0	88	1†	40	26	32	4.30	+ 2.26	1.45	0	10	13	5	12	se.	Frank Sharp.
Ivan	Kalkaska	.....	22	57.1	− 2.2	87	1	28	28	41	3.04	− 0.15	0.90	0	11	10	13	7	nw.	O. L. Giddings.
Jackson	Jackson	927	14	64.1	− 0.6	90	1†	40	28	46	4.69	+ 1.88	1.35	0	11	11	9	10	nw.	City of Jackson.
Jeddo	St. Clair	667	22	61.7	− 0.4	89	1	38	14	30	3.29	+ 0.62	0.84	0	11	8	11	11	ne.	William Bice.
Kalamazoo	Kalamazoo	955	35	64.6	+ 1.5	90	1	42	28	34	3.62	+ 0.54	0.95	0	10	10	12	8	w.	Kalamazoo Asylum.
Lansing (Agr. Col.)	Ingham	820	47	61.5	+ 0.3	89	1	38	28	35	5.05	+ 2.38	1.46	0	13	11	8	11	se.	U. S. Weather Bureau.
Lansing (Capitol)	....do	881	24	62.8	+ 0.9	90	1	38	28	34	6.22	+ 3.48	2.20	0	11	8	5	17	ne.	State board of health.
Lapeer	Lapeer	827	12	63.8	+ 1.9	90	1	39	12†	34	3.49	+ 0.07	0.80	0	9	7	14	9	sw.	Michigan Home.
Ludington	Mason	586	13	58.6	− 3.0	78	1†	32	28	36	3.65	+ 1.43	1.10	0	5	20	7	3	sw.	Pere Marquette R. R.
Luther	Lake	1,028	1	58.2	.....	88	1	29	28	40	4.32	.....	1.51	0	14	14	7	9	sw.	John W. Nicholson.
Mackinaw	Cheboygan	592	20	57.2	− 0.9	78	11	35	27	28	1.75	− 1.74	0.45	0	7	10	11	9	nw.	G. R. & I. Ry.
Mancelona	Antrim	1,121	15	57.2	− 0.9	86	1	29	26	34	2.63	− 0.59	1.10	0	10	18	5	7	e.	Do.
Manistee	Manistee	600	14	60.5	+ 0.4	84	1	32	29	36	1.70	− 0.77	0.65	0	6	19	8	3	nw.	Pere Marquette R. R.
Marshall	Calhoun	896	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. B. Stuart.
Midland	Midland	604	12	.....	.....	.....	.....	33	28	.....	1.71	− 0.53	1.00	0	5	10	8	12	se.	Pere Marquette R. R.
Morenci	Lenawee	811	4	65.2	.....	89	1†	43	14	35	3.83	.....	0.93	0	10	15	1	14	sw.	George J. Tripp.
Mount Clemens	Macomb	615	11	60.8	+ 1.7	94	2	28	14	46	5.55	+ 2.49	1.68	0	9	11	10	9	se.	Waterworks.
Mount Pleasant	Isabella	836	12	63.0	+ 1.9	95	2	34	28	45	1.07	− 1.35	0.23	0	8	14	4	12	w.	Pere Marquette R. R.
Muskegon	Muskegon	597	15	61.2	− 0.8	85	1	39	28	31	0.93	− 2.52	0.30	0	7	16	1	13	w.	G. R. & I. Ry.
Old Mission	Grand Traverse	858	17	58.8	− 2.2	83	1	37	28	31	3.39	+ 0.20	0.75	0	11	7	17	6	n.	E. O. Ladd.
Olivet	Eaton	934	21	61.6	+ 0.1	83	1†	44	30	29	5.62	+ 2.20	1.61	0	13	16	1	13	s.	G. A. Knapp.
Omer	Arenac	616	12	60.6	+ 0.8	89	5	34	20†	51	3.80	+ 1.88	0.80	0	8	6	11	13	sw.	D. & M. Ry.
Onaway	Presque Isle	826	8	58.0	− 0.2	84	1	23[a]	26	40[a]	1.90	− 0.60	0.70	0	4	16	1	13	w.	Do.
Owosso	Shiawassee	731	14	62.2	− 1.0	90	2	36	28	36	6.01	+ 3.45	1.04	0	15	8	14	8	sw.	Owosso Sugar Co.
Petoskey	Emmet	660	21	56.8	− 2.9	85	1	32	28	31	0.96	− 1.92	0.41	0	10	7	15	8	e.	G. R. & I. Ry.
Plymouth	Wayne	725	14	.....	.....	.....	.....	.....	.....	.....	5.23	+ 2.78	1.65	0	5	10[e]	8[e]	9[e]	sw.	Pere Marquette R. R.
Pontiac	Oakland	935	11	64.0	+ 1.2	91	1	40	14	33	5.89	+ 3.60	1.40	0	11	18	4	8	nw.	Fred E. Shaw.
Port Austin	Huron	618	14	60.8	.....	97	2	34	14	40	3.86	.....	0.92	0	12	13	4	11	ne.	Pere Marquette R. R.
Port Huron	St. Clair	639	36	61.4	+ 0.5	88	1	39	14	28	3.64	+ 0.96	1.22	0	13	11	8	11	ne.	U. S. Weather Bureau.
Reed City	Osceola	1,033	14	61.6[g]	+ 1.7	90[g]	1	31[g]	28	50[g]	4.39	+ 1.54	0.92	0	12[e]	11[e]	0[e]	14[e]	nw.	Pere Marquette R. R.
Roscommon	Roscommon	1,141	10	56.3[a]	− 1.1	87[a]	1	27[a]	25†	44[a]	3.56[a]	+ 1.05	0.98[a]	0	11[a]	6[a]	16[a]	7[a]	n.	State Forestry Com.
Saginaw	Saginaw	601	9	62.3	.....	90	1	38	28	38	4.16	.....	0.98	0	15	11	9	10	sw.	Postmaster.
Saginaw, West Side	....do	601	16	61.5	− 1.0	89	1	35	27	37	4.14	+ 1.07	0.96	0	14	13	9	8	ne.	Robert B. Hudson.
St. James	Charlevoix	681	5	57.0	.....	78	1	37	28	27	2.33	.....	0.50	0	13	13	5	12	nw.	James Malone.
St. Joseph	Berrien	593	24	64.5	+ 0.7	85	17	43	25	32	5.72	+ 2.65	1.45	0	11	8	8	14	sw.	City of St. Joseph.
Sandusky	Sanilac	790	2	61.5	− 1.0	89	1	35	27	37	4.14	+ 1.07	0.96	0	14	13	9	8	ne.	Pere Marquette R. R.
Saranac	Ionia	639	16	61.6	− 0.1	91	1	38	28	40	6.20	+ 3.19	1.16	0	11	12	0	18	e.	John Wallington.
South Haven	Van Buren	585	15	61.1	− 1.3	86	17	44	28	36	5.20	+ 2.07	2.00	0	8	18	7	5	sw.	Mrs. M. E. De Diemar.
Stanton	Montcalm	880	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	City of Stanton.
Thornville	Lapeer	975	34	60.2	− 2.7	84	1†	37	14	30	6.11	+ 3.21	2.00	0	9	9	9	12	.....	J. S. Caulkins.
Traverse City	Grand Traverse	588	14	60.2	− 0.9	86	1	36	27	35	1.85	− 0.85	0.50	0	7	9	2	19	nw.	G. R. & I. Ry.
Vassar	Tuscola	641	10	61.0	− 1.5	88	1	34	15	43	4.11	+ 1.71	1.00	0	10	10	9	11	sw.	Pere Marquette R. R.
Wasepi	St. Joseph	842	14	64.1	+ 1.1	88	2	44	20	32	3.21	+ 0.30	0.93	0	11	15	0	15	nw.	Charles A. Palmer.
West Branch	Ogemaw	973	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Michigan Central R. R.
Woodlawn	Montmorenci	.....	9	53.6	− 5.1	83	1	27	28	49	4.56	+ 1.17	0.87	0	14	10	11	9	nw.	T. C. Mathews.
Ypsilanti	Washtenaw	736	26	63.5	+ 1.7	92	2	38	14	35	3.68	+ 0.72	1.25	0	11	3	24	3	nw.	Orin J. Bemiss.
Ohio.																				
Akron	Summit	1,081	24	66.1	+ 1.8	86	2	43	14	28	5.42	+ 2.39	3.22	0	9	10	8	12	sw.	Prof. C. R. Olin.
Benton Ridge	Hancock	800	18	66.8	+ 0.9	88	3	45	14	33	2.50	− 0.01	0.64	0	9	14	6	10	sw.	J. W. Powell.
Bowling Green	Wood	670	30	65.7	+ 0.5	89	1†	43	14	37	2.77	− 0.14	0.97	0	9	14	6	10	sw.	G. C. Houskeeper.
Bucyrus	Crawford	1,000	17	68.4	+ 3.0	92	2	44	14	36	3.25	+ 0.54	.80	0	11	11	5	14	se.	James R. Hopley.
Cleveland (1)	Cuyahoga	762	40	65.0	+ 0.7	88	2	46	14	23	4.67	+ 1.45	1.90	0	11	11	10	9	n.	U. S. Weather Bureau.
Cleveland (2)	....do	754	14	65.2	+ 0.5	87	2	44	14	26	4.68	+ 1.86	1.81	0	9	18	2	10	se.	Rev. F. L. Odenbach, S. J.
Conneaut	Ashtabula	675	1	64.8	.....	88	2	41	14	33	5.70	.....	3.09	0	10	13	7	10	sw.	E. L. Ransom.

TABLE 1.—*Climatological data for September, 1911. District No. 4*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Ohio—Continued.																				
Defiance	Defiance	712	17	66.0	+ 0.8	91	2	42	20†	37	3.19	+ 0.22	0.80	0	9	12	2	16	ne.	John F. Heilshorn.
Findlay	Hancock	776	22	67.1	+ 1.2	91	2	43	14	38	2.60	− 0.24	0.91	0	11	16	6	8	se.	Dr. E. A. Moser.
Fremont	Sandusky	628	9	66.9	.....	90	1†	43	14	34	2.85	.....	0.83	0	10	15	6	9	sw.	E. Stanley Thomas.
Hedges	Paulding	725	17	66.6	+ 0.9	90	2	42	23†	41	3.18	+ 0.87	0.90	0	8	16	8	6	sw.	Charles Stutzman.
Hillhouse	Lake	997	18	63.9	+ 0.5	87	2	39	13†	34	6.86	+ 3.04	3.65	0	13	11	15	4	sw.	J. W. Doncaster.
Hiram	Portage	1,200	31	65.4	+ 2.1	85	2	40	14	28	5.29	+ 2.00	1.74	0	9	11	12	7	.....	Prof. G. H. Colton.
Hudson	Summit	1,153	50	64.8	+ 0.8	89	2	36	14	35	6.27	+ 2.92	2.80	0	7	17	6	7	s.	Dr. W. I. Chamberlain.
Lima	Allen	875	12	66.3	+ 1.1	86	2	48	14	27	4.13	+ 1.79	1.15	0	8	15	7	8	w.	Miss Ollie DeLong.
Medina	Medina	944	23	66.2	+ 1.0	88	1	37	14	39	5.22	+ 2.51	3.47	0	6	16	7	7	se.	F. W. Clark.
Montpelier	Williams	880	19	66.6	+ 2.8	91	2	44	14	35	2.84	− 0.14	0.67	0	8	16	3	11	nw.	G. L. Laser.
Napoleon	Henry	680	24	66.4[a]	+ 1.1	90[a]	2	45	14	34	2.88	+ 0.22	0.62	0	12	15	4	11	e.	A. C. Senter.
New Bremen	Auglaize	1,038	18	67.7	+ 1.0	88	2†	45	30	37	4.14	+ 1.48	0.98	0	7	11	14	5	sw.	Miss Lillian Grothaus.
North Royalton	Cuyahoga	1,000	18	64.7	− 0.6	85	1	41	14	29	5.99	+ 3.07	3.09	0	8	14	11	5	se.	W. S. Edgerton.
Norwalk	Huron	719	25	66.4	+ 1.3	89	2	42	14	37	2.11	− 0.63	0.50	0	11	7	9	14	w.	Giles R. Gregory.
Oberlin	Lorain	855	36	65.6	+ 1.5	88	2	41	14	36	4.26	+ 1.73	1.90	0	8	13	7	10	sw.	Prof. F. F. Jewett.
Ottawa	Putnam	720	16	66.6	+ 0.7	88	2	45	14	33	3.00	+ 0.55	1.10	0	10	7	13	10	sw.	Prof. J. T. Maidlow.
Sandusky	Erie	629	34	66.5	+ 1.2	90	2	47	14	27	3.53	+ 0.85	1.64	0	12	14	9	7	ne.	U. S. Weather Bureau.
Tiffin	Seneca	775	29	66.0	+ 1.0	87	2	46	14	25	2.33	− 0.24	0.74	0	11	14	9	7	n.	Prof. T. H. Sonnedecker.
Toledo	Lucas	769	40	66.0	+ 1.9	89	2	48	28	25	3.25	+ 0.89	1.09	0	13	12	9	9	nw.	U. S. Weather Bureau.
Upper Sandusky	Wyandot	854	28	66.8	+ 1.0	87	2	45	14	33	3.97	+ 1.48	0.86	0	12	10	6	14	nw.	Robert E. Tracht.
Vickery	Sandusky	588	18	66.7	+ 1.2	92	2	42	14	40	2.30	− 0.04	0.73	0	9	11	8	11	sw.	John W. Barr.
Wauseon	Fulton	780	39	65.1[b]	+ 1.5	93[b]	2	42[b]	14	35	3.81	+ 1.23	0.97	0	14	8	16	6	s.	Thomas Mikesell.
Willoughby	Lake	649	17	.....	.....	.....	.....	.....	.....	.....	6.01	+ 3.03	3.20	0	11	14	7	9	ne.	C. M. Richardson.
Pennsylvania.																				
Erie	Erie	658	38	64.2	+ 0.3	87	2	42	14	27	4.14	+ 0.65	1.51	0	10	8	12	10	s.	U. S. Weather Bureau.
New York.																				
Adams Center	Jefferson	540	20	59.1	− 2.0	78	2	34	28	26	4.24	+ 0.77	2.55	0	10	9	16	5	s.	A. E. Cooley.
Angelica	Allegany	1,340	28	58.8	− 0.1	84	2	26	14	37	3.25	+ 0.28	0.71	0	16	0	15	15	w.	Chas. P. Arnold.
Appleton	Niagara	270	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Van Wagoner.
Auburn	Cayuga	715	42	60.8	− 0.2	86	2	35	14	34	3.83	+ 0.78	1.42	0	9	15	11	4	s.	A. H. Underwood.
Avon	Livingston	585	16	61.0	− 0.9	85	2	34	4	35	3.19	+ 0.53	0.78	0	11	7	17	6	.....	W. G. Markham.
Blue Mountain Lake	Hamilton	1,750	11	.....	.....	.....	.....	.....	.....	.....	4.93	+ 0.50	1.27	0.5	10	16	11	3	w.	B. F. Merwin.
Brockport	Monroe	537	15	61.4	− 1.8	86	2	32	14	30	2.69	+ 0.09	0.93	0	15	15	9	6	.....	W. H. Lennon.
Buffalo	Erie	767	60	62.2	− 0.7	82	18	41	28	27	3.81	+ 0.63	1.07	0	11	11	11	8	sw.	U. S. Weather Bureau.
Canton	St. Lawrence	448	17	55.9	− 3.4	80	5	29	28	35	4.50	+ 1.69	2.72	0	10	10	10	10	sw.	Do.
Cape Vincent	Jefferson	246	6	58.8	.....	79	6	35	14	28	3.33	.....	1.50	0	9	11	13	6	s.	Verne M. Rice.
Carvers Falls	Washington	243	13	57.0	− 3.0	84	2	30	14	31	3.61	− 0.02	0.88	0	9	18	5	7	s.	Washburne Fancher, C. E.
Chazy	Clinton	151	11	58.4	− 1.2	82	2	32	28	34	4.16	+ 1.19	1.18	0	6	12	10	8	s.	W. R. North.
Dannemora	....do	1,490	6	57.2	.....	80	2	30	28	30	4.14	.....	1.76	T.	13	12	7	11	w.	Dr. W. N. Thayer.
Elba	Genesee	500	12	59.2	− 3.5	80	2	31	14	32	1.91	− 0.65	1.11	0	6	19	5	6	sw.	Joseph S. Wilford.
Faust	Franklin	1,550	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Santa Clara Lumber Co.
Fayetteville	Onondaga	530	10	62.8	− 0.7	87	2†	34	28	35	2.93	+ 0.48	1.69	0	10	15	5	10	nw.	Dana H. Wells.
Gabriels	Franklin	1,729	9	54.0	.....	84	24	25	14	50	3.55	.....	1.46	T.	14	15	6	9	w.	Gabriels Sanitarium.
Harkness	Clinton	622	9	56.5	− 2.8	84	2	30	14	33	2.75	+ 0.02	1.01	0	13	21	4	5	w.	J. W. Harkness.
Hemlock Lake	Livingston	900	13	61.4	− 1.4	83	2	37	14	27	3.42	+ 1.21	0.89	0	7	15	7	8	s.	D. H. Westbury.
Hunt	....do	1,321	12	61.4	− 1.2	86	2	31	14	31	3.27	+ 0.81	1.03	0	8	9	16	5	sw.	W. S. Barager.
Ithaca	Tompkins	928	33	60.4	− 0.2	85	2	30	14	33	2.78	− 0.05	0.84	0	13	16	3	11	nw.	U. S. Weather Bureau.
Keene Valley	Essex	1,000	13	58.0	− 0.7	90	23	25	14	52	3.41	− 0.05	1.92	0	12	16	7	7	s.	E. R. Wells.
King Ferry	Cayuga	.....	11	.....	.....	.....	.....	.....	.....	.....	3.55	+ 1.11	1.13	0	12	14	8	8	nw.	Lucius A. Goodyear.
Lake George	Warren	350	14	59.8	− 0.8	86	2	33	14†	38	4.32	+ 0.70	0.96	0	12	11	14	5	s.	Charles Forsell.
Lake Placid Club	Essex	1,864	3	51.6	.....	73	2	23	14†	35	2.29	.....	0.32	0.5	13	13	12	5	nw.	Henry von Hoevenberg.
Le Roy	Genesee	920	21	61.0	− 0.2	84	2	34	14	32	4.39	+ 1.39	2.03	0	10	11	6	13	w.	F. W. Ball.
Lockport	Niagara	650	24	60.9[a]	− 1.5	82	1†	35	14	33	2.00	− 0.81	0.49	0	11	.....	.....	.....	.....	J. E. Wakeman.
Lowville	Lewis	900	44	56.4	− 1.4	79	2	29	14	39	2.16	− 0.91	0.87	0	7	17	5	8	w.	Charles J. Rice.
Moira	Franklin	200	11	56.6	− 4.4	80	5	29	28	41	3.25	− 0.13	1.41	0	10	17	7	6	w.	C. E. McBride.
Nehasane	Hamilton	1,750	3	53.3	.....	78	2	22	14	37	3.78	.....	1.06	T.	16	14	9	7	s.	L. W. Brown.
North Lake	Herkimer	1,822	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John F. Redmond.
Ogdensburg	St. Lawrence	175	27	58.8	− 2.8	80	2	30	14	34	2.80	+ 0.05	1.30	0	8	10	19	1	se.	State Hospital.
Old Forge	Herkimer	1,733	3	54.1	.....	77	2†	25	14	34	3.76	.....	1.26	0	16	15	4	11	w.	Mrs. S. W. Nelson.
Oswego	Oswego	335	41	59.8	− 2.9	82	2	39	14	28	3.03	+ 0.22	2.17	0	12	16	4	10	s.	U. S. Weather Bureau.
Otto	Cattaraugus	1,410	7	61.6	.....	81	2	36	14	32	4.54	.....	0.96	0	14	11	14	5	.....	William J. Winke.
Palermo	Oswego	460	52	.....	.....	.....	.....	.....	.....	.....	2.80	− 0.27	2.01	0	11	18	7	5	e.	E. B. Bartlett.
Perry City	Schuyler	1,038	31	57.4	− 2.3	87	2	26	14	36	4.00	+ 1.26	0.91	0	12	9	10	11	nw.	W. H. Jeffers.
Philadelphia	Jefferson	485	5	58.8	.....	79	2†	31	28	31	6.06	.....	4.15	0	10	10	15	5	n.	E. D. Babcock.
Potsdam	St. Lawrence	300	35	58.8	− 1.0	84	6†	30	28	35	4.44	+ 1.36	2.15	0	13	.....	.....	.....	.....	E. E. Sutherland.
Raquette Lake	Hamilton	.....	3	55.4	.....	75	5	28	28	37	4.74	.....	1.26	0	14	11	7	12	w.	R. J. Dunning.
Rochester	Monroe	523	82	61.4	− 0.5	84	2	37	14	32	3.56	+ 1.24	2.12	0	13	13	6	11	w.	U. S. Weather Bureau.
Romulus	Seneca	719	19	62.2	− 0.8	86	2	37	14	35	2.07	+ 0.49	0.78	0	9	12	7	11	nw.	John H. Coryell.
Shortsville	Ontario	740	12	61.4	− 2.0	84	2	37	14	30	3.57	+ 1.41	1.05	0	12	16	10	4	ne.	C. H. Latting.
Skaneateles	Onondaga	.....	16	.....	.....	.....	.....	.....	.....	.....	3.73	+ 0.65	1.70	0	12	.....	.....	.....	.....	Edward Conron.
Syracuse	....do	597	9	60.6	− 1.0	85	2	34	28	27	2.76	− 0.06	1.46	0	12	13	9	8	s.	U. S. Weather Bureau.
Ticonderoga	Essex	344	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Eva M. De Lano.
Tupper Lake	Franklin	1,522	11	54.6	− 1.1	77	19†	26	14	37	2.49	− 0.76	1.15	T.	8	18	1	11	w.	Rev. A. W. Maddox.
Volusia	Chautauqua	1,167	12	61.1	− 0.8	82	2	35	14	32	3.55	− 0.36	0.55	0	13	9	15	6	s.	Benjamin Breads.
Wanakena	St. Lawrence	.....	1	53.4	.....	78	2†	24	14	43	2.87	.....	1.11	0	9	12	12	6	w.	J. Otto Hamele.
Watertown	Jefferson	737	19	59.2	− 2.3	78	2†	33	28†	25	4.84	+ 0.98	2.57	0	11	18	5	7	nw.	L. L. Allen.
Wedgewood	Schuyler	1,430	22	60.5	− 1.4	85	2	33	14	29	3.04	+ 0.29	0.72	0	16	17	4	9	nw.	O. F. Corwin.
Westfield	Chautauqua	837	15	63.0	− 0.2	85	2	38	14	32	2.46	− 0.74	0.43	0	9	17	4	9	.....	John R. Rogers.
Youngstown	Niagara	.....	9	.....	.....	.....	.....	.....	.....	.....	1.64	.....	0.41	0	6	0	28	2	n.	B. V. Brookins.
Vermont.																				
Burlington	Chittenden	404	3	56.4	− 2.5	81	2	32	14	29	3.46	+ 0.11	.76	0	13	11	10	9	s.	U. S. Weather Bureau.
Cornwall	Addison	517	17	59.4	− 1.5	83	2	32	14	29	2.57	− 0.35	.70	0	8	18	4	8	n.	C. H. Lane.
Enosburg Falls	Franklin	601	19	56.0	− 2.0	82	2	26	14†	42	4.59	+ 1.60	1.46	0	14	14	7	9	s.	L. H. Pomeroy.
Northfield	Washington	876	24	53.7	− 0.9	82	2	25	14	34	2.53	− 0.23	.51	T.	16	6	14	10	s.	U. S. Weather Bureau.
Wells	Rutland	750	19	56.6	− 2.2	82	2	30	14	27	4.51	+ 0.89	.80	0	12	9	13	8	s.	E. R. Pember.

a, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1911. District No. 4, Lake Region.*

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Minnesota.																																
Cloquet	Lake Superior	.08			1.53	.24	.10	.06	.08					.01	.62				.02			.15		.01				.08	.12			3.10
Duluth	do	.05			1.60	.16	.09	.01	.06	.01			.01		.63						.10	.03		.18			.22		.20			3.35
Floodwood	do	.12			.15	1.20	.45		.08						.64														.38			3.20
Stephens Mine	do	.29			.22	1.34	.25	.07	.13		.18	.07			.20				.46			.22		.06				.20	.35	.09		4.13
Two Harbors	do	.50			.45	2.05	T.	.40	.70			.25		.10	.50				.50			.30		.25	T.		T.	.20	.10	.70		7.00
Virginia	do	.23			.21	1.21	.23	.06	.15	.02		.07		.03	.17				.08			.25		.10			.16	.06	.30	.08		3.41
Wisconsin.																																
Appleton	Fox					.05		.50	.03			.66			2.21	.08			.95			.69		.03	.01			.76	.33	T.		6.30
Ashland	Lake Superior	.02			.18	1.48		.33				.23		.04	.50							.25		.09	.02			.60	.05			3.79
Bayfield	do	.11			.19	2.01		.21				.03			.51							.23					T.	.39	.40	.18		4.26
Cecil	Fox					.25		.80	.12	T.		.60			1.33				.28			.68		.25	T.			.40	.79			5.50
Florence	Menominee	T.			T.		.53	.14				.07				.52								.53				.23		.54		2.56
Fond du Lac	Fox		.05			T.	.05			.25	.95	T.	.05	.46				1.03						T.	T.			.22	.15		.05	3.26
Grand River Locks	do		.20			.10	T.	.10	T.		.50	.25	T.	.05	.30			1.35			.50			T.	T.			.40	T.	.60	T.	4.35
Green Bay	Lake Michigan				.03	.06	.05	.19	T.	.01		.51	T.		.98			.35	.24		.02	.41		.35	T.		T.		1.61		.35	5.16
Iron River	do	.02			.35	1.15	.10	.19	T.	.02		.27		.06	.60			T.	T.		T.	.25		.50	T.		.06	.10	.40	.15	.15	4.37
Kewaunee	do				.03	.10		.40				1.48			.60				.48			.64		.18			.50		1.50		.28	6.19
Manitowoc	do	T.						.32				.64			2.35			.50				.65		.14			.09		1.04		.05	5.78
Menasha	Fox				T.			.26				.96			1.79			.89				1.19			.06		.07		1.17	2.73	9.12
Menomonee Falls	Lake Michigan		T.			T.		.12	T.		.64		.96		.61				1.87			.92			.20			.57	.12	.45		6.46
Milwaukee	do					.25	.04	.01	.01		.76	.46		.01	.22			.35	.57		T.	.45			.18		T.	.42	.35		.23	4.31
New London	Fox							.45				1.27	.10		1.72				.85			.55			.10				1.20			6.24
Oconto	Lake Michigan				.45	.37	.33	.10							.93			1.50			.25	.05		.29			.38		.77		.51	5.93
Oshkosh	Fox							.30	.01		T.	.31	.80	.08	1.25				.86			.84			.10	T.		T.	1.06		T.	5.61
Pine River	do		T.			T.	.10	.24	T.		.40	1.30		.09	.70	T.			1.36			.51			.06		T.	.02	1.13	.27	.02	6.20
Plum Island	Lake Michigan		.04			.55		.21				.06			.55				.46			.57			.50			.08	.30	.23		3.55
Plymouth	do		.06				T.	.17	.01		.28	1.25		.09	.41				1.00			.88			.03	T.		.26	.68	.19	.02	5.33
Port Washington	do					.05		.04			.10	.10	.30		.28				.62			.72			.12			.82	.10	.42	1.10	4.77
Racine	do					.11	T.	.01	T.		1.28		T.		.46				.93			.63			.77	.03		.61	T.	.16	T.	4.99
Ripon	Fox							.20			.05	.03			.05				1.48			.68			T.	T.		.04	.28	.51	T.	3.32
Sheboygan	Lake Michigan		.08					.13	T.		.21	.16	.40	T.	.85				1.36			1.00			T.	T.		.24		1.40		5.83
Sturgeon Bay	do		T.			.73	.02	.47	.06			.55			.89	.03			.49			.81		T.	.11	.02		.22	.61	.09	T.	5.10
Superior	Lake Superior		.04			1.66	.06	.21	.02	.05	.02			.01	.66	.02						.14		.04	T.			.09		.23		3.25
Waupaca	Fox					.01		.45	.05			1.23		.02	1.36	.02		1.24				.57		.05	.01		.02		1.38		.87	7.28
Illinois.																																
Chicago	Lake Michigan			T.		.17	.32	.08	T.		.19	.03	.03	.08	1.15	.01		T.	.99		T.	.42			.15	.09		.07	.14		.11	4.03
Highland Park	do						.62				.23									1.22					1.33					.42		3.82
Indiana.																																
Auburn	Maumee					.05	.09	T.		T.		T.	.18			.51			1.15	.06		.11	.12			.21	T.		.45	.12		3.05
Berne	do					.42	T.				.04			.05	.87	.66	.04		.68			.06				.06	.02	.17	.02	.06		3.15
Elkhart	St. Joseph																															
Fort Wayne	Maumee					.30			T.		.04			.03	.47	.73			.92			.20			.01	.10		.36	.05	.09		3.30
Hammond	Lake Michigan				.87				T.		T.					1.80	.10	T.	1.45		.30	.20						.28		.12		.11	.74	5.97
Howe	St. Joseph						.13						.37			.60			.50					.68					.98	.22			3.48
South Bend	do					.20	.02	.10	T.			.10	.03	.03	.10	.80	.01		.75	.18		.32	.01	.01		.30	.01		.18	.21			3.36
Whiting	Lake Michigan					.44	1.01				.04		.04		1.08	.39		.02	1.07			.47			.01	.21			.14	.18			5.10
Michigan—Upper Peninsula.																																
Baraga	Lake Superior	T.		.40	.20						T.				T.									.30				.80	.20			1.90
Bergland	Ontonagon	T.				1.40		.25				T.			.45				T.			.22		.70			T.		.75			3.77
Blaney	Manistique																															
Calumet	Lake Superior	.12			.10	1.16		.08				.02			.23									.77	.05			.14	.05	.64		3.36
Chatham	do	.02	.02		.03	.39	.01					.93			.29	.02						.30			.20			.09		.52		2.82
Deer Park	do	T.			T.	1.60									.10													.15		T.		1.85
Detour	St. Marys					1.30						.50			.20													.30		.25		2.65
Eagle Harbor	Lake Superior	.03					1.30	.30		T.		T.			.05		T.		T.			T.			.80		T.		.30	T.	T.	2.78
Escanaba	Lake Michigan	T.	.01		T.	1.08		.05				.37		T.	.50				.07			.53		.37	T.		.21	.01	.47	.10	.01	3.78
Ewen	Ontonagon	.10			.13	1.30		.13		T.		.05			.42		1.00					.20		.20					.64	.30		3.47
Grand Marais	Lake Superior																															
Green	do				1.19						.40				T.												1.15		.60			3.34
Houghton	do	.19			.38	.54	.03	T.	T.	T.		.02			.22							.03		.69			.03	.01	.40	.07			2.61
Humboldt	Escanaba	T.			T.	.45						.52			.31														T.	T.			1.28
Iron Mountain	Menominee					.38		.15	T.			.05			.42							.28			.18			.14	.22	.52			2.34
Iron River	do			.40	.30	.20		.25				.20			.55	.25								T.	.40			.35	.20	.70			3.80
Ironwood	Lake Superior	T.			.11	1.52		.17	T.			.23			.13							.17		.11	.10			T.	.09	.18			2.78
Ishpeming	Escanaba	.05	T.		.10	.40	.20			T.		.30			.60	.10						.20		.05	.20			.40	.05	.60			3.25
Isle Royale	Lake Superior																															
Mackinac Island	Lake Huron	T.	T.			.20	T.	.31	T.			.29			.92				.12	.01					.03	T.		.43	T.	.48			2.79
Maple Ridge	Lake Michigan					.58		.08				.40			.46							.46			.43			.35		.50			2.76
Marquette	Lake Superior	.04			.14	.60		.01				.30	.03		.06	T.						.17	T.	.26	T.	T.	.08	T.	.58	.12			2.39
Menominee	Menominee	.42			.27	.21		.04				.20			.80			.82				.51		.15			.03		.57		.42	4.47
Munising	Lake Superior		.05		.02	.25	.02					.45			.18	.02						.38			.16			.27		.56			2.36
Newberry	Tequamenon		.03		.03	.33						.12			.12	.04			T.			.11			.20			.23		.28			1.49
Powers	Lake Michigan																															
St. Ignace	Lake Huron					.30	.03	.05				.11			.12	.20			.15			T.			T.			.25		.36	T.		1.57
Sault Ste. Marie	St. Marys	.10			.01	.79				T.		.16	.01		.34	.02			.05			T.		.01	.08		.02	.31	.08	.05			1.83
Thomaston	Lake Superior																															
Victoria	Ontonagon	.07	.06		.10	1.10	T.	.11	T.		.02	.26			.32	T.						.25		1.12	.05			.13	.47	.32			4.38
Watersmeet	Lake Superior	T.	.02		.06	.51	.02	.20	T.			.56		.01	.37							.03		.47	.10			.17	.12	.31			2.95
Whitefish Point	do		.22			.50						.32	.02			.11									.09		.35		.15	.20			1.96
Michigan—Lower Peninsula.																																
Adrian	Raisin					.23					.27	.21			.64				.29	.18		.39			.18			1.25		.42			4.06
Allegan	Kalamazoo					.21	.32				.17		.24		.34	.71			.67			.44			.74	.17		1.11	T.	.77			5.89
Alma	Saginaw		.20			.08	T.	T.					.30		.77	.06			.70			.15			.40	.08	.04	.67	.05	1.06	.80		5.36
Alpena	Lake Huron	T.	.39			.04		.19	T.			.33			.17	T.			.02			T.		T.	.07	.03		.30	.08	.27			1.85
Ann Arbor	Huron					.12		.10			.02	.01	.25		.17	.66			.02			.23	.02		.18	.03		1.46	T.	.68			3.99
Arbela	Saginaw		.13			.43	.07						.44		1.12							.18			.21	.18	.06	.43		1.47	.03		4.75
Battle Creek	Kalamazoo					.34	.05	T.			.20			.28	.05	.54			.72			.28				.12		1.48		.40			4.45
Bay City	Saginaw		.10			.40	.15	.40	.30		.20	.40	1.00		1.50				.20			.30				.40	.40	.60		.70	.80		7.86
Benzonia	Betsey																															
Berlin	Clinton		.02			.39	.01	.01			T.		.58		2.20	.03			T.			.22			.20	.05	.01	.49		.81	.12		5.20

TABLE 2.—*Daily precipitation for September, 1911. District No. 4*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Michigan—Lower Peninsula—Con.																																
Big Rapids	Muskegon		.10			.06	.37		.01			.14	.35		1.18	.02			.55			.18			.16	.15	.05	.55		.83		4.70
Bloomingdale	Lake Michigan					.73	.36	T.	T.	T.	.72		.32		T.	.70			1.00						.51	.17		.52	T.	.46	T.	4.49
Cadillac	Manistee		.03			.03		.13				.50		.88	.45							.29			.14					.88		3.33
Cassopolis	St. Joseph											1.00		.50	.12							.33						2.00		1.00		4.95
Charlevoix	Lake Michigan		.10				.66	.12				.50			.25													.76		.30	.52	3.21
Charlotte	Kalamazoo					.80							.38		1.15	.20			.86			.28			.53			1.20		.62		5.72
Cheboygan	Cheboygan					T.	.30	T.							.60	.10														.70		1.70
Clinton	Raisin					.16		T.				T.	.20		T.	1.60			.18			.28			T.			1.30		.30		4.02
Coldwater	St. Joseph					.15	T.					.31	.67		.10	.70			.57			.55				.08		.50		.10		3.73
Concord	Kalamazoo					.23	.10	.08	T.		.05		.60			.68			.35			.35				T.	T.	1.95		.15		4.54
Croton	Muskegon		.33			.19						.32	.61		.87	T.			.71			.10			.10	.05		1.00		.98	T.	5.26
Detroit	Detroit		T.			.07		.01		T.	T.	.25			1.58	.01			.01	.04		.18			.02	.05	.02	1.17	.54	.37	T.	4.32
Durand	Saginaw																															
East Tawas	Lake Huron		.20			.12		.22				.40			.60							.22			.22	.12		.30	.40	.35		2.93
Eloise	Rouge					.25	.05					T.	.52		.91	.52		.03		.04		.22			.09	.01		1.70	T.	.85	.01	5.20
Flint	Saginaw		.05			.45			.08				.40		1.12				.10			.25			.05	.40	.07	.06		.90	.07	4.00
Frankfort	Betsey					.30		.20				1.20			.60				.30			.15			.12			.10		.90		3.87
Ganges	Lake Michigan					.19	1.32	.04			.18		.41	.02	.08	.29			.57			.45			.90			.39		.45		5.29
Gaylord	Cheboygan																															
Gladwin	Saginaw		.15			1.10	.30	T.				1.30			.40							T.				1.30			1.60		1.10	7.25
Grand Haven	Grand		.21			.15	T.	T.	T.		.03	.57		.02	.67				.75			19			.91	T.		1.77	.57	T.	.04	5.88
Grand Rapids	....do		.01			.65	T.				.04	.37		T.	1.05				.86			17			1.27	T.		1.80	1.35	T.	.01	7.58
Grape	Raisin					.15		.07				T.	.15		.15	1.00			.33			.39			.05			1.56		.48		4.33
Grass Lake	Grand					.38	.08								.30	.10						.30			T.			1.20	T.	.32		2.68
Grayling	Au Sable		.21			.83	.05	.51	T.			T.	.02		.28	.05			.05			.07			.08	.12		.28	.05	.78		3.38
Harbor Beach	Lake Huron		.20			.30		.20				.05	.15		.20	.20										.20		.05		.55		2.10
Harrison	Saginaw																															
Harrisville	Lake Huron																															
Hart	Pentwater					.01	.02			1.00									1.52	1.50				.35			1.82					6.22
Hayes	Pigeon		.30			.15		.20				.12	.40		.55	.50										.81	.15	.20		1.00		4.38
Highland	Huron					.44	.13	.13					.55		.82	.58								.31				1.65		.72		5.33
Hillsdale	St. Joseph					.13	.13				.10	.31			T.	.71			.37			.50			.60		.70	.70	T.			4.25
Holland	Lake Michigan					.32	.14				.21		.33		.25				.60			.31			.27	.04		1.36	.11	1.53		5.47
Howell	Saginaw					.75	T.	.15					.40		.30	.10			.25			.20				.01		1.45		.70		4.30
Ivan	Manistee		.43			T.	.45	.40				.21			.30				.20			.07			.03	.04		.01		.90		3.04
Jackson	Grand					.35	.15	.10			.04		.39		.35	1.10			.27			.29						1.35		.30		4.69
Jeddo	St. Clair		.10			.31							.18		.75	.25			.06			.13			.12	.08		.47		.84		3.29
Kalamazoo	Kalamazoo					.30					.45		.38		.95				.53			.35			.09	.16		.23		.18		3.62
Lansing (Agr. Col.)	Grand		.02			.49					.01	.36	.01		.55				.54			.10			.42			1.08	1.22	.24	.01	5.05
Lansing (Capitol)	....do		.01			.42	T.		T.		.02		.39		.93	.03			.55			.14			.53			1.00	2.20		T.	6.22
Lapeer	Saginaw		.50			.80						.33	.10									.20			.25			.55		.73	.03	3.49
Ludington	Pere Marquette											.47	1.10						.98									.42		.68		3.65
Luther	Manistee		.21			.08	.01	.02				.20	.49		.58	T.			.56			.27	T.		.21	.05		.12		1.51	.01	4.32
Mackinaw	Lake Huron						.15	.18			.14					.28											.45		.40	.15		1.75
Mancelona	Lake Michigan		.46			T.	.20	1.10				.05			.20				.40			.02			T.	.20			.01	.45	T.	2.63
Manistee	Manistee							.07				.30	.30						.20			.18								.65		1.70
Marshall	Kalamazoo																															
Midland	Saginaw						.10	T.							.01				.10		T.	T.			.50	T.		T.		1.00		1.71
Morenci	Maumee					.28						.47			.30				.85	.39		.44			.06	.01		.93		.10		3.83
Mount Clemens	Clinton					.02		.01			T.		.19		1.21	1.68				T.		.19			.50	T.		.84		.91		5.55
Mount Pleasant	Saginaw		.18			.23	.09	.07								.07						.13								.17	.13	1.07
Muskegon	Muskegon		.02			.01									.03							.27			.10			.20	.30			0.93
Old Mission	Lake Michigan		.56			.75		.57				.03			.28				.20			.08				.20		.16	.16	.40		3.39
Olivet	Kalamazoo					.95	.03	.01			.04		.03		.85	.55			.55			.20			.09	.06		1.61		.65		5.62
Omer	Lake Huron					.20		.50			.40	.80			.70										.70	.30				.20		3.80
Onaway	Cheboygan						.20	.30							.70															.70		1.90
Owasso	Saginaw		.22			1.00	.05	.01	.05				.34		.77	.03			.60			.06			.63	.21	.02	.98		1.04		6.01
Petoskey	Lake Michigan					.04		.12				.41		.04	.10	.04			.08			.02						.01		.10		0.96
Plymouth	Rouge							.58			T.											.60		.65			1.75	1.65			5.23
Pontiac	Clinton					.52		.09			T.		.40		1.40	.80						.22			.06		.15	1.05		1.15	.05	5.89
Port Austin	Lake Huron		.20			.08		.28	.04			.29	.66			.28						.02			.09	.92		.10		.90		3.86
Port Huron	St. Clair		.01			.35	T.	.02	T.			.27			1.22					T.	.04	.25			.21	T.	.01	.42	.36	.47	.01	3.64
Reed City	Muskegon		.50			.05		.15		.02	.50	.40		.50				.50		T.		.25					.25		.35		.92	4.39
Roscommon	Au Sable			.72		.03		.80					.38		.33	.12			.04			.03			.10			.03		.98		3.56
Saginaw	Saginaw		.10			.18	.05	T.	.01			T.	.38	T.	.60	.39			.17			.11			.40	.20	.06	.50		.98	.03	4.16
Saginaw West Side	....do		.03			.22	.20	.02	T.				.42		.65	.02			.25			.16			.56	.09		.50	.06	.96		4.14
St. James	Lake Michigan		.03			.50	.10	.10				.30			.25	.06			.31			.07			.11	.04		.10		.36		2.33
St. Joseph	St. Joseph					.12	T.	.40			.50				.10	.50			1.10						.30	.70		1.45		.15	.30	5.72
Sandusky	Lake Huron					.71										1.20										.49	.12	.58		1.10	.04	3.24
Saranac	Grand		.25			.60					.03		.54		.93				.65			.28			.47	.13		1.16	T.	1.16		6.20
South Haven	Lake Michigan					1.00	.40					.60							2.00			.40			.30	.20		.30				5.20
Stanton	Grand																															
Thornville	Saginaw		.04			.85							.65		2.00	.60						.15			.20			1.02		.60		6.11
Traverse City	Lake Michigan		T.			.10		.30				T.	T.						.30			.18				.35				.50		1.85
Vassar	Lake Huron		.10			.20	T.		T.				.58		.40	.38						T.			.14	.78		.48		1.00	.05	4.11
Wasepi	St. Joseph					.18		.05					.15	.03	.42	.36			.55			.39						.93	.03	.12		3.21
West Branch	Lake Huron																															
Woodlawn	Au Sable		.42			.05	.17	.70	.05			.87	.38		.35				.43			.07			.15	.15		.32		.43		4.56
Ypsilanti	Huron					.17		.01		T.	T.	T.	.24		.05	.64			.16	.13		.26			.12			1.35		.55		3.68
Ohio.																																
Akron ‖	Erie	T.					.35	T.	T.	.51		T.	T.	T.		3.22	.03						.05				T.	.75	.32	.16	.03	5.42
Benton Ridge	Maumee					.39	.03			.03					.27	.64			.61			.05						.40	T.	.08		2.50
Bowling Green	Erie					.18	.01						.22		.03	.75			.28			.12						.97		.21		2.77
Bucyrus ‖	Sandusky					T.	.80			.75	T.	T.	.10	.02		.80	.05			.20						.01		.35	.15	.02	3.25
Cleveland (1)	Erie		T.			.37	.14			.06		T.			.68	1.22				.03		.07						1.86	T.	.11	.01	4.67
Cleveland (2)	....do		T.			.46				.08		T.			.38	1.81				.02						.20		1.52	T.	.19	.02	4.68
Conneaut	....do			.40		.20	T.						.03			3.00				.11		.07			.03			.49		1.33	.04	5.70
Defiance ‖	Maumee					T.	.20	T.		T.			.21	T.		.70			.80	.02		T.	.18			.05		T.	.78	.25	T.	3.19
Findlay ‖	....do			T.		T.	.48	.03		.09		T.	.05	T.		.91	.03			.46			.04			.02			.36	.13		2.60
Fremont	Sandusky					.83	.05			.05		.19			.60				.19			.04				.11		.58		.21		2.85
Hedges	Maumee					.90							.13		.30	.51			.25			.12						.72			.25	3.18
Hillhouse	Erie			.10		.56	.26	.10	T.	.05						3.65				.15		.13				.02	.17	.74		.83	.10	6.86
Hiram	....do			.08		.33	.11	.22		.30				T.		1.74						T.				T.	.15	.95		1.38	T.	5.29
Hudson	....do						.45			.25						2.80						.12						1.33		1.27	.05	6.27
Lima	Maumee					.46				.55	T.				.60	.87	.02		.35			T.				T.		.13		1.15		4.13
Medina	Erie			.05		.30				.30			T.			3.47						T.				T.		.78		.32	T.	5.22
Montpelier	Maumee					.24	T.					.16		T.	.55				.43	T.		.36			.18	T.		.67		.25		2.84
Napoleon	....do					.33	.02						.29	.04	.07	.49			.45	.05		.23			T.	.04		.62		.25		2.88
New Bremen	....do					.60			.97		.40				.34	.98			.62			T.						.23				4.14

TABLE 2.—*Daily precipitation for September, 1911. District No. 4*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
***Ohio*—Continued.**																																
North Royalton	Erie			.02		.59				.22						3.09											.05	1.25		.70	.07	5.99
Norwalk ‖	do						.24	.03		.12			.12			.31	.04			T.			.03				.08	.14	.50	.50		2.11
Oberlin	do			.05		.30				.19			.19			1.90						T.				.07		.96		.60		4.26
Ottawa	Maumee					.44	.01				T.				.40	1.10			.22			.08				.04		.04	.65	.02		3.00
Sandusky	Erie		.14			.29				.01		.13	.02		1.35	.29			T.	T.		.02				.07		1.05	.01	.15		3.53
Tiffin	Sandusky					.74	.03	T.		.13			.19		.05	.38	T.		.09			.05				.01	T.	.46		.20		2.33
Toledo	Maumee					.35	T.	.02			T.	.16	.01	T.	.78	.31			.24	.02		.25				.03		.74	.01	.23		3.25
Upper Sandusky	Sandusky					.86	.05			.42		.05	.11	.05	.15	.70			.38			.15						.80		.25		3.97
Vickery	Erie					.64	.01			T.			.18			.42			.13			.10					.12	.61		.09		2.30
Wauseon ‖	Maumee						.35	.01				.02	.36	.02	T.	.67			.26	.71			.28			.04	.04	.01	.83	.21		3.81
Willoughby ‖	Erie			.21		.44	.32	.03		.03						3.20				.10		.08					.06	.71		.83		6.01
Pennsylvania.																																
Erie	Lake		.09			.81		T.		T.			.09		.43	1.08				.21		.22				.24		.29		.78		4.14
New York.																																
Adams Center	Lake Ontario		.08			.02	2.55	.03	T.	.03			.64			.05						.12	.58							.14	4.24
Altmar	do																															
Angelica	Genesee	.04		.02		.22	.71		.09	.16			.45			.29				.15	.01					.13	.41	.02	.02	.40	.04	3.25
Appleton	Lake Ontario																															
Auburn	Oswego		.15			.33	.20	1.42	.08	T.			.70									.15						.22		.58		3.83
Avon	Genesee					.50	.30		.78	.20						.12				.10		.32	.14			T.	.05	.05		.63	T.	3.19
Blue Mountain Lake	Raquette							.45				1.27	.43		.27	.31				.67			.17			.23				.87	.26	4.93
Boonville	Black																															
Brockport	Lake Ontario		T.	.01		.32	.93		.09	.03			.25			.01				.04		.16	.04			.06	.07	.23		.43	.02	2.69
Buffalo	Lake Erie		T.			1.00	.07	.37		T.			.55	T.	.01	.16				.44		.10				T.	.02	.07	T.	1.02	T.	3.81
Canton	Grass		.07			1.28	1.44			.02		T.	.58			.15	.12			T.		.24			T.	.49	T.	T.		.11		4.50
Cape Vincent	St. Lawrence					1.50			.10			.40				.20				T.		.66			.25	.03		.06	.13			3.33
Carvers Falls	LakeChamplain						.54		.18	.12			.19			.85	.88						.10					.35		.40		3.61
Chazy	do						1.18			.45			.18			1.00										.85		T.		.50		4.16
Dannemora	do	.04	.02				1.76			.06			.35			.65	.02						.22			.56	T.	.01	.13	.29	.03	4.14
Elba	Lake Ontario					.23	.88			T.			.45							T.		T.	.07			T.		T.	.10	.18		1.91
Faust	Raquette																															
Fayetteville	Oswego		.06				.13		1.69	.12			.22			.04						.07	.03			T.	T.	.03		.54		2.93
Gabriels	St. Regis	.07	.02	.01			1.46			.11			.50			.10	.07									.77	.02	.07	.26	.04	.05	3.55
Harkness	LakeChamplain	.16					1.01			.06			.09			.20	.12						.11			.63	.04	.02	.10	.20	.01	2.75
Hemlock Lake	Genesee	*	.23			.89		.66		.20		.58								T.		.18									.68	3.42
Hooker	Lake Ontario																															
Horseshoe	St. Lawrence																															
Hunt	Genesee		.12			1.03			.73	.22			.23			.07										.31				.56		3.27
Ithaca	Oswego		.17	T.	T.	.27	.57	T.	.27	.28			.24			.28						.20				.10	.02	.01		.35	.02	2.78
Keene Valley	Ausable	.05	.03	.08			1.92	.03		.15			.21				.41					T.	.10			.05	.09			.20		3.41
King Ferry	Oswego			.14		.52			1.13	.26			.44			.14						.13	.10		.20		.03	T.		.32	.05	3.55
Lake George	LakeChamplain	.03	.82				.06	T.	.31	.53			.32			.53	T.					.06	.25			T.	.07	.05		.30		4.32
Lake Placid Club	Ausable, W. Br	.08	.28				.32	.08	T.	.15			.22			.12	.25						.31			.05	.25			.13	.05	2.29
Leisers Mill	Black																															
Le Roy	Genesee		.04			.50	2.03	T.	.41	T.			.42			.03				T.		.15				T.	.06	.09		.66		4.39
Lockport	Lake Ontario		.01			.09	.26	T.		T.			.49			.11				.10		.30	.03				.04	.18		.39		2.00
Lowville	Black		.20			.10	.87		T.	T.			.64			.10						T.	.15			T.		.10				2.16
Moira	St. Lawrence		.14				1.41			.07	.03		.50				.35									.35	.30	.02		.08		3.25
Nehasane	Black	.08	.14	.13		.03	1.03	T.	.03	.23			.72			.62	T.						.26			.12	.04	.19	.03	.17	.02	3.78
North Lake	do																															
North Osceola	Lake Ontario																															
Ogdensburg	St. Lawrence	.11				T.	1.30			.04						.10	.32						.38			.45	T.			.10		2.80
Old Forge	Black	.08	.10	.11		.03	1.26		.20	.37			.53			.25			.01				.19			.23	.03	.15	.02	.20		3.76
Oswego	Lake Ontario		.01			1.34	.83	.01	.02	.03	T.		.22			.05				.01		.25				T.		.07		.19		3.33
Otto	Lake Erie		.11	.40		.40	.60	.96	.02				.42			.13					.07	.05			.05	.80		.04		.49		4.54
Palermo	Lake Ontario	.30				2.01	.06	.10	.05	.06			.10			.06				T.		.03				T.		T.		.03		2.80
Perry City	Oswego			.26		.09	.91		.75	.25			.43			.25						.12	.26			T.	.27	T.		.35	.06	4.00
Philadelphia	St. Lawrence	T.	.09			T.	4.15			.04			.50			.46	T.					.09	.46			.05	T.	.16		.06		6.06
Potsdam	Raquette			.13			2.15			.02	.03		.77				.17	.10					.25			.44	.11		.10	.11	.06	4.44
Raquette Lake	do	.25	.08			.05	1.26	.10	.16	.40			.65			.94							.16		.13	.11			.10	.35		4.74
Rochester	Genesee		.02			2.11	.01	.23	.02	T.			.28		T.	.05				.03		.20			T.	.01	.01	.16		.43		3.56
Romulus	Oswego						.18	.06		.08	.31		.33			.17						.08				T.	.08	T.		.78		2.07
Scottsville	do					2.05			.37			.82									.18							.10		.47		3.99
Shortsville	do			.08		.40	.37		1.05	.07			.34			.12				T.		T.	.34			.03	.06	.06		.65	T.	3.57
Skaneateles	do		T.	.12		.05	.30	T.	1.70	.11			.54			.04						.05	.15			T.	T.	.11		.40	.16	3.73
Syracuse	do		.11			.14	.07	.36	1.10	.08			.25			.01						.13				T.	.02	.05		.44		2.76
Ticonderoga	L. Champlain																															
Tupper Lake	Raquette		.06				1.15			.15		.30				.23							T.			.16	.19	T.		.25		2.49
Volusia	Lake Erie			.12		.18	.45	.55	.04				.03			.25				.36		.45				.22	.49	.05		.36		3.55
Wanakena	Oswegatchie	T.	.15				1.11			.06			.56			.28						.30				.15		.18		.08		2.87
Wards Creek	Raquette																															
Watertown	Black		.15	.02		.04	2.57						.61			.70						.20	.28			T.	.03	.12		.12		4.84
Wedgewood	Oswego			.10		.15	.72	.01	.15	.52	.04		.20			.18						.13	.08			.25	.08	.02		.35	.06	3.04
Westfield	Lake Erie		.21			.31	.10								.33					.29		.31				.17		.31		.43		2.46
Youngstown	Lake Ontario					.15	.09						.41									.39						.24		.36		1.64
Vermont.																																
Burlington	Champlain	.06	.15			.16	.50			.21			.31			.49	.44	T.				.09				.76	T.	.09	.02	.18		3.46
Cornwall	do						.51		.25	.26			.05			.70							.40			.20		T.		.20		2.57
Enosburg Falls	do	.03	.04	.07			1.46			.20	T.		.78			.73	T.	T.					.19			.58	.08	.07	.12	.16	.08	4.59
Northfield	do	.02	.02	.05		.05	.46		.15	.37			.15			.39	.03					.10	.21			.06	T.	.11	.05	.32		2.53
Wells	do		.78				.80		.32	.53			.23		.74		.16						.29			T.	.09	.14		.29	.14	4.51

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1911. District No. 4, Lake Region.*

Date.	Duluth, Minn.		Wisconsin.						Chicago, Ill.		Fort Wayne, Ind.		Michigan.													
			Florence.		Green Bay.		Milwaukee.						Escanaba.		Ewen.		Houghton.		Marquette.		Sault Ste. Marie.		Alpena.		Battle Creek.		Cadillac.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	72	55	81	56	88	59	80	63	80	66	88	59	79	58	76	48	74	50	76	60	78	55	88	54	89	54	83	55
2	70	47	69	57	77	58	84	62	86	68	89	68	74	54	70	50	65	54	68	54	64	52	77	53	86	66	75	60
3	63	44	67	41	72	52	70	60	70	65	75	57	67	48	69	34	64	47	62	49	61	43	70	47	75	47	72	47
4	55	50	66	44	76	54	72	62	75	65	80	54	65	49	61	41	66	45	70	50	72	37	67	43	77	47	75	49
5	58	52	65	53	77	58	82	58	83	67	76	51	68	56	58	46	56	52	57	53	59	55	65	58	76	58	75	55
6	52	40	55	44	60	52	63	57	67	63	70	62	58	47	57	36	52	42	53	46	61	50	62	53	72	60	75	55
7	49	43	54	41	56	52	65	58	72	64	80	61	55	48	52	33	54	44	55	43	58	44	57	49	76	56	57	48
8	50	46	59	41	60	52	63	58	66	63	76	65	59	49	54	38	58	43	56	43	60	42	61	54	75	56	.....	.....
9	67	45	71	51	70	52	69	58	68	64	79	62	65	53	59	40	64	50	69	54	68	50	67	51	78	58	71	52
10	75	54	74	54	73	59	68	63	76	65	79	60	68	53	75	43	72	52	71	56	67	48	75	52	78	53	75	55
11	74	42	77	56	79	58	82	62	82	62	84	61	72	49	75	44	70	46	80	48	71	46	77	53	81	61	72	57
12	60	37	63	36	59	45	65	55	72	59	72	56	59	41	65	32	56	39	57	41	54	39	59	43	74	55	69	40
13	57	47	63	39	64	50	64	54	66	58	68	52	59	47	67	35	62	47	62	46	59	39	54	43	66	47	70	43
14	59	49	56	45	65	52	75	57	81	57	75	48	59	54	62	42	61	49	61	51	57	42	58	43	64	43	58	45
15	77	53	75	52	77	57	79	64	79	69	78	68	80	56	63	41	76	58	81	56	75	51	81	57	77	62	75	53
16	63	53	76	51	82	56	86	59	82	63	81	62	71	54	65	40	69	53	64	53	67	47	81	55	82	51	79	56
17	67	51	75	50	78	57	73	62	78	68	82	59	67	56	81	52	77	51	76	53	70	47	65	53	84	51	75	48
18	63	45	70	58	70	56	76	59	80	64	81	65	78	59	75	50	69	56	75	57	69	56	70	61	81	64	77	58
19	65	44	65	43	69	48	72	54	67	58	71	55	69	48	63	42	60	48	65	49	57	45	70	48	73	55	65	52
20	67	50	68	37	66	49	64	55	68	58	71	51	64	44	58	32	68	44	62	47	63	39	68	42	71	44	71	43
21	65	50	63	50	66	53	66	57	69	60	68	53	62	51	70	40	61	50	60	52	63	48	61	48	64	53	68	51
22	77	53	73	45	74	51	69	54	68	58	69	52	66	46	77	45	82	50	77	54	74	47	67	42	70	46	71	42
23	65	42	76	56	74	58	75	56	77	60	80	50	67	49	74	43	74	43	78	45	73	52	75	54	78	47	72	54
24	44	40	67	40	65	45	66	51	68	60	80	56	49	43	65	39	47	40	45	42	58	44	62	51	75	54	71	50
25	54	40	55	37	52	44	57	50	62	58	72	61	53	41	54	39	50	42	49	50	53	43	54	45	66	58	57	49
26	61	41	60	30	62	38	60	45	64	52	67	56	58	37	62	27	64	38	62	38	60	40	62	37	62	48	62	31
27	57	42	63	42	71	44	76	53	77	63	75	59	66	39	58	29	58	34	62	38	57	35	68	39	72	54	66	52
28	43	38	50	25	56	41	68	51	71	56	69	52	52	33	47	20	46	32	49	34	50	29	53	37	66	41	58	32
29	45	37	48	42	54	43	66	47	71	51	71	50	51	43	47	41	46	43	47	42	44	39	51	45	69	52	55	45
30	49	35	48	40	55	41	56	47	60	51	59	48	52	42	57	42	48	43	47	43	47	36	51	43	58	46	49	42
Mns.	60.8	45.5	65.1	45.2	68.2	51.1	70.4	56.4	72.8	61.2	75.5	57.4	63.8	48.2	63.9	39.5	62.3	46.5	63.2	47.9	62.3	44.7	65.9	48.4	73.8	52.9	68.9	48.9

Date.	Michigan.						Ohio.								Erie, Pa.		New York.								Vermont.			
	Detroit.		Muskegon.		Saginaw, West Side.		Cleveland.		Lima.		Sandusky.		Toledo.				Buffalo.		Canton.		Rochester.		Syracuse.		Burlington.		Northfield.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	87	62	85	55	89	52	84	61	85	58	87	62	87	62	80	61	74	64	77	54	82	59	79	59	75	53	74	51
2	89	61	75	62	83	63	88	67	86	65	90	69	89	67	87	69	77	66	79	61	84	65	85	67	81	63	82	52
3	73	56	70	49	78	47	67	60	85	60	70	59	73	57	69	60	69	56	70	51	71	57	69	58	70	51	69	44
4	74	56	78	48	80	49	68	54	80	55	71	55	72	57	70	52	73	54	69	43	71	49	70	53	69	43	67	39
5	70	61	76	60	70	55	72	62	71	65	70	63	71	62	76	61	73	57	80	45	78	53	73	53	75	47	75	42
6	67	54	68	60	66	56	71	64	70	64	70	65	69	59	73	62	70	60	66	51	71	60	71	57	69	56	69	54
7	68	54	68	55	62	55	78	62	81	60	75	62	73	57	70	60	69	53	58	39	63	55	67	54	61	45	62	43
8	72	59	72	54	65	54	69	61	78	64	69	64	67	63	65	59	64	54	63	44	61	55	59	53	58	46	55	46
9	80	63	70	59	80	56	71	65	73	62	74	65	80	62	72	62	75	57	64	56	68	58	71	59	60	54	56	51
10	80	62	72	55	76	54	72	62	79	61	76	65	83	63	75	60	72	58	72	54	78	58	75	57	76	58	73	49
11	82	64	67	60	80	58	78	65	82	62	81	64	83	64	77	63	75	63	76	51	76	61	76	64	75	50	75	49
12	64	49	65	51	74	51	69	53	71	63	67	57	68	55	73	52	72	51	68	44	68	50	73	50	66	47	70	41
13	62	49	68	46	62	46	60	50	67	52	63	52	64	52	58	46	54	46	53	34	52	40	52	38	52	35	50	29
14	65	46	65	48	62	42	67	46	66	48	69	47	68	48	69	42	66	45	60	31	62	37	61	37	59	32	59	25
15	78	65	70	58	78	57	72	66	75	65	75	66	81	68	72	60	70	59	62	46	77	55	64	52	61	47	53	31
16	82	61	70	63	85	53	78	64	81	64	81	63	84	65	74	63	71	65	78	52	81	60	77	61	78	52	77	49
17	84	58	80	53	80	51	76	60	73	59	78	61	85	63	75	58	78	60	71	44	72	57	77	55	69	51	72	46
18	81	63	79	65	82	61	80	62	79	60	85	63	84	62	81	63	82	60	73	45	78	58	75	55	72	49	72	47
19	74	59	74	59	75	56	71	58	75	61	73	66	74	58	71	62	72	60	78	46	78	57	79	56	75	48	76	43
20	70	53	68	45	61	43	63	55	69	49	67	57	68	52	65	54	65	51	70	48	68	50	66	52	70	49	69	42
21	61	55	62	52	74	54	71	54	69	54	68	54	67	56	74	51	68	51	68	42	72	50	73	48	73	44	70	36
22	68	52	75	44	79	44	65	57	65	53	68	59	57	56	67	58	70	55	70	51	69	54	69	54	69	50	65	43
23	77	58	73	50	68	47	80	57	75	50	82	55	80	56	80	57	79	52	75	47	80	48	76	49	73	46	73	40
24	74	61	66	58	61	55	76	64	79	56	83	61	80	60	79	67	73	66	78	58	80	64	81	65	75	59	76	50
25	66	57	60	55	66	54	71	61	75	63	75	63	74	61	70	61	69	55	58	49	72	57	75	58	66	50	75	55
26	65	53	64	44	74	46	62	55	70	58	65	54	65	55	61	51	62	50	56	37	58	42	58	42	53	37	55	31
27	73	54	68	46	62	51	73	54	72	54	73	54	73	54	72	51	68	49	58	36	69	45	63	42	55	35	58	28
28	59	44	63	39	59	35	62	54	72	55	63	57	64	48	60	50	58	41	51	29	54	40	57	34	54	32	58	29
29	67	50	67	48	55	48	70	56	64	49	71	56	70	52	70	52	63	46	43	37	55	44	54	40	41	32	40	29
30	57	46	56	45	73	37	57	52	67	55	60	53	57	49	53	49	54	43	54	31	55	42	53	39	53	37	51	30
Mns.	72.3	56.2	69.8	52.5	72.0	51.0	71.4	58.7	74.5	58.1	73.3	59.7	74.0	58.1	71.3	57.2	69.5	54.9	66.6	45.2	70.1	52.7	69.2	52.0	66.1	46.6	65.9	41.5

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1911.

DISTRICT No. 5. UPPER MISSISSIPPI VALLEY.

GEORGE M. CHAPPEL, District Editor.

GENERAL SUMMARY.

September, 1911, was noted for the number and severity of local thunder, hail, and wind storms; the excessive amount of rainfall over portions of the district; the general deficiency of sunshine; and the number of rainy days. The temperature for the district, as a whole, was near normal, and no unusually high or low readings were recorded. The month opened warm and the highest temperatures for the several States were recorded on the 1st or 2d. After the 2d the weather was moderate, with the coldest days between the 24th and 28th. Light frost occurred on one or more days as far south as northern Iowa and northern Illinois, and killing frosts with freezing temperatures occurred in the extreme northern part of the district on the 12th, 19th, 24th, 25th, 26th, 27th, and 28th, the lowest temperature reported being 18° on the 28th at Deerskin Dam, Wis. Rain fell in some part of the district on every day of the month, and was well distributed throughout the month in all sections. The average precipitation for Iowa was greater than for any September since the establishment of the Climatological Service, and in Illinois it was not only the record amount for September, but the greatest State average ever recorded in any month of any year. Daily amounts in excess of 4 inches were recorded at several stations in Iowa, Missouri, Indiana, and Illinois.

During the first half of the month the moisture and heat were generally favorable for reviving the pastures, putting the soil in condition for plowing and seeding of fall grains and replenishing the water supply, but by the close of the month the continued excessive moisture was injurious. In the southern sections plowing and seeding were delayed and corn in shock or on the ground was sprouting, small streams were out of their banks and much of the bottom land was flooded, and harvesting and thrashing were delayed in the extreme northern sections. Thunder, hail, and wind storms were frequent, and in many localities were very damaging.

TEMPERATURE.

The temperature was below the normal in the northern and above in the southern sections of the district, the departures ranging from +3.1° in Missouri to −2.9° in South Dakota, yet there were no unusually high or low readings recorded in any part of the district. With the exception of moderately high temperatures between the 1st and 3d and 14th and 16th, and comparatively low readings between the 24th and 30th, the fluctuations in temperature were slight. The 1st and 2d were the warmest days in all sections, and in southern Iowa and northwestern Missouri the maximum readings were up to or exceeded 100° at one or more stations on the 1st or 2d. Killing frost and freezing temperatures occurred on several dates in the northern part of the district, but in North Dakota the minimum temperatures did not run as low as during the preceding month.

The monthly mean temperature for the district, as shown by the records of 294 stations, is 62.1°, which is 0.9° above the normal. The highest monthly mean was 77.6°, at Carbondale, Ill., and the lowest, 50.1°, at Warroad, Minn. The highest temperature reported was 105° at Steffenville, Mo., on the 2d, and the lowest 18°, at Deerskin Dam, Wis., on the 28th. The monthly mean and departure from the normal for the respective States in the district were as follows: North Dakota, 54.0°, −2.5°; Minnesota, 57.0°, −1.1°; South Dakota, 57.9°, −2.9°; Wisconsin, 58.7°, −1.2°; Iowa, 65.3°; +1.6°; Missouri, 61.9°, +3.1°; Indiana, 65.4°, +1.9°; Illinois, 68.8°, +2.3°.

PRECIPITATION.

The rainfall was above the normal in all parts of the district, and over portions of Iowa, Missouri, Indiana, and Illinois it was abnormally heavy; the average amounts and departures from the normal for the several States, or parts of States, in the upper Mississippi Valley being as follows: North Dakota, 2.44 inches, +0.71; Minnesota, 3.23, +0.50; South Dakota, 3.19, +1.40; Wisconsin, 5.29, +2.35; Iowa, 5.97, +2.58; Missouri, 10.16, +6.83; Indiana, 5.72, +2.94; Illinois, 9.10, +5.39.

Rains began in North Dakota on the 1st, and continued at frequent intervals over the entire district during the remainder of the month. Many of the showers were attended by severe thunder, hail, and wind storms, which did considerable damage to property. Stormy periods were from 4th–8th, 13th–14th, 17th–18th, and from 25th–30th, and local showers occurred on numerous other dates. The rainfall was abnormally heavy over southeastern Iowa, northeastern Missouri, and central Illinois; the average for Iowa and Illinois exceeded all previous records for September, and the monthly amount at several stations exceeded the record for any month of any year. There were 8 stations in Iowa, 4 in Missouri, and 28 in Illinois that reported monthly amounts in excess of 10 inches, the greatest being 20.03 inches at Monmouth, Ill. The area of rainfall in excess of 10 inches covered all or part of 7 counties in Iowa, 4 in Missouri, and 32 in Illinois, and includes most of central Illinois, southeastern Iowa, and northeastern Missouri. The monthly amount at Monmouth, Ill., 20.03 inches, is within less than 2 inches of the total precipitation at that station for the year 1910, and is more than half of the yearly normal. The greatest previous amount in the 16 years' history of the station is 14 inches.

The average precipitation for the district, as shown by the records of 322 stations, is 5.73 inches, 2.87 inches

above the normal. The greatest amount, 20.03 inches, occurred at Monmouth, Ill.; and the least, 0.89 inch, at Pembina, N. Dak. The greatest amount in 24 hours, 7 inches, occurred at Bloomfield, Iowa, on the 28th. Measurable precipitation occurred on an average of 12 days. A trace of snow was recorded at Crosby and Donnybrook, N. Dak., Warroad, Minn., and Elma, Iowa.

SUNSHINE AND CLOUDINESS.

The average number of clear days is 10, partly cloudy 9, and cloudy 11. The duration of sunshine was considerably below the normal.

WIND.

Southeast winds prevailed. The highest velocity reported was 48 miles an hour from the northwest, at Springfield, Ill., on the 6th.

RIVERS.

At the close of the month the rivers in this district were higher than they were at the close of August, and they were also higher than at the close of September, 1910. The highest stage of the Mississippi River at Dubuque, Iowa, was 3.2 feet on the 30th; lowest, 1.2 feet on the 6th; average stage for the month, 2 feet. At Prairie du Chien, Wis., the maximum stage was 2.8 feet on the 29th; lowest, 0.6 foot on the 6th; average for the month, 1.5 feet. The Wisconsin River at Wausau, Wis., ranged from 3.2 feet on the 6th to 6.7 feet on the 15th, the average for the month being 4.5 feet. At Portage, Wis., it ranged from 2.4 feet on the 5th and other dates to 5.1 feet on the 20th; average, 3.5 feet. At Muscoda, Wis., it ranged from 0.9 foot on the 11th to 2.7 feet on the 22d; average, 1.7 feet. The rainfall in the upper portion of the Wisconsin River Valley was comparatively light, which accounts for the low stages in that river. In the Davenport River district the stages of the Mississippi River averaged nearly 2 feet above those reported at the close of August, but through traffic over the Le Claire Rapids had not been resumed. Owing to the excessively heavy rains in central Illinois, southeastern Iowa, and northeastern Missouri, the rivers in those sections overflowed their banks and caused much damage to property. Mr. Clarence J. Root, section director, Springfield Ill., reports as follows:

The floods damaged or destroyed many bridges and culverts, and railroad traffic was delayed on account of washouts and damaged bridges. The Illinois River at La Salle was above the flood stage on the 19th and 20th, but the damage was slight. The river was above the flood stage at Beardstown after the 28th.

The following extracts from the reports of observers will show the conditions in various sections:

Lincoln, Prof. C. S. Ogelvee: Corn in creek bottoms washed away. At end of month streams are badly out of their banks. Small bridges and fences washed away, and the historic Rankin flour mill destroyed.

Alexander, George H. Hall: At the end of the month all streams were raging torrents, washing out bridges and culverts, and ruining practically all corn in the lowlands. At Jacksonville, Mauvis Terre Creek was 1½ feet higher than it had been for 25 years. Cellars were flooded.

Windsor, Herbert Rose: Several hundred acres of corn were washed out in bottoms; only half of the clover has been thrashed.

Rushville, H. F. Dyson: The loss of crops in Schuyler County is estimated at more than a half million dollars. There are three streams that overflowed, and this year every patch in the bottoms was in corn. The loss in the drainage district will be considerable.

Clinton, J. F. Ziegler: The heavy rains of September 25 washed out a portion of the dam of an artificial lake at the Chautauqua grounds, allowing the water to completely escape with the loss of its entire stock of fish and devastating fences and fields in its course.

Quincy: Between 75 and 100 bridges and culverts were washed out in Adams County, causing a damage of $25,000 or $30,000.

Mr. George Reeder, section director, Columbia, Mo., says:

It is reported that Fabius, North, and South Rivers were in flood, and much of the fertile bottom lands are under water, doing considerable damage to crops. The Mississippi River at Hannibal rose rapidly on the 24th.

SEVERE LOCAL STORMS.

Thunderstorms were frequent and were in many cases accompanied by heavy hail, destructive winds, and torrential rains, the worst of which occurred in central Illinois and southern Iowa. On the afternoon of the 17th a severe thunder and hailstorm crossed the southern portion of Minnesota. At Pipestone, Pipestone County, hail fell to the depth of 3 inches. At Fairmont, in Martin County, the storm was also very severe. In the county east of that place hailstones 4 inches in circumference fell. At Grand Meadow, in Mower County, the storm was unusually violent. A severe and destructive hailstorm occurred in portions of Trempealeau, La Crosse, and Vernon Counties, Wis., on the afternoon of the 11th. The following extracts are taken from La Crosse, Wis., papers of the 12th:

Hailstones as big as hen's eggs shattered thousands of window panes in and about La Crosse shortly after 4 o'clock yesterday afternoon, causing the loss of several thousand dollars. The largest stones did not fall very thickly, one following another at short intervals. The noise made by tin roofs was almost deafening. The greenhouse owners, as usual, were the heaviest losers, over 25,000 square feet of glass was broken, and plants and flowers in several of the greenhouses were cut by falling glass. The hail was accompanied by a drenching rain, one of the heaviest ever experienced within the short space of time during which rain fell. The temperature fell 20° at the time of the storm. Reports indicate that the storm was also severe at Trempealeau, Trempealeau County, and at Veroqua, Vernon County.

A storm that bore every evidence of true tornadic character occurred in the vicinity of Winterset, Iowa, on the afternoon of September 6 between 2.30 and 3 o'clock. The storm cloud presented a white or smoky appearance, and the attendant lightning and thunder were terrific. Spasmodic precipitation, amounting to 0.78 of an inch, fell at Winterset, being very heavy both during and after the passage of the storm cloud, which moved toward a point a little south of east. Hail of the size of hickory nuts fell in places. The storm's path was approximately 20 miles in length and from 30 to 80 rods in width. The following extracts are taken from a report on the storm, rendered by Dr. Robert S. Cooper, cooperative observer at Winterset:

The first material damage was done at Tileville, where the residents saw a funnel cloud bearing down upon them. It appeared as a whirling, smoky mass, and with a roar that was distinctly heard. All the buildings but one were wrecked. The south side of a house almost new was bulged outward and spikes and nails from barns to the north were driven into the west side. Three horses were carried about 100 yards toward the southeast, having been lifted over two fences without injury. A little farther on an outhouse and a chicken house side by side were driven in opposite directions, one north and one south. Still farther on a baby was found under the wreckage of a house beside a hen which had been killed, the child being uninjured. At another place the axle of a buggy was found bent around a tree. Near by a steel bridge in the path of the tornado was whirled into a twisted mass and deposited in the river, 75 or 80 feet downstream. Only 50 yards from the bridge the distribution of the débris evidenced that the wind was from an opposite direction. In all, about 30 buildings were destroyed, but no one was killed or seriously injured. A man walking home in the path of the storm saw it coming, so lay down and took hold of a fence post. He was whipped around and his flesh lacerated by flying sand and dirt, but not hurt much. A cow was blown past him on one side and a horse on the other in a moment's time. Those who saw the cloud say it was funnel shaped, but not steady, tipping from side to side and rising and falling. We have evidence of

its rising and falling from the fact that there are stretches of country uninjured but for a few fallen trees. Up in the air 100 feet or so it appeared to be full of limbs of trees, doors, shingles, and other débris. According to eyewitnesses, it whirled around in the direction of the hands of a watch.

Mr. Clarence J. Root, section director, Springfield, Ill., says:

Many of the numerous thunderstorms during the month were very severe, and reports of fire and damage by lightning were received from many places in the central and northern parts of the State. Barns and stock were destroyed and some houses damaged, and electric service was crippled in some cases. No direct fatalities were reported. In some places severe wind squalls accompanied the storms, blowing down corn, injuring fruit, and damaging buildings and shade trees. A severe storm occurred in the vicinity of Springfield on the 6th. The most severe storm of the month is believed to be the one that visited Springfield and Sangamon County on the 13th. It is thought that the worst of this storm was confined to Sangamon County, because the damage in Macon and Christian Counties was much less and no damage was reported in other border counties.

Following are reports of the storms that occurred at Springfield, Ill., on the 6th and 13th:

SEVERE WIND STORMS AT SPRINGFIELD, ILL.

STORM OF SEPTEMBER 6, 1911.

By J. C. JENSEN, Assistant Observer.

A severe local rain and wind storm, during which the wind attained a maximum velocity, for a five-minute period, of 48, and an extreme velocity of 58 miles an hour, passed over the city between 10 and 11 p. m. This velocity equals the station record and is the highest since April 26, 1902, when a maximum velocity of 48 miles an hour was recorded.

Although not confined to any specific portion of the city, the storm seems to have been the most severe in the west and central parts.

Numerous plate-glass windows were blown in, signs and cornices torn from their moorings, and trees and small buildings blown over or demolished. The streets in all parts of the city were strewn with large branches, whole trees, and débris of various kinds, to the extent of obstructing street-car and other traffic at some points. Telephone and electric light and transit wires suffered severely from broken poles and falling trees. A large tent near the center of the city was blown down. In addition to the plate glass, many windows in the residence districts were broken either directly by the force of the wind or by flying débris. A horse was reported killed by lightning east of the city.

In the country considerable fruit was blown from the trees but the damage to corn was not important. The loss in Springfield and vicinity is conservatively estimated at $10,000.

STORM OF SEPTEMBER 13, 1911.

By CLARENCE J. ROOT, Section Director.

Early on the morning of September 13, 1911, a severe windstorm visited Springfield and Sangamon County, and its influence was felt in some of the neighboring counties. The wind accompanied a thunderstorm that moved from the northwest. A moderate squall occurred at 1.35 a. m. A second squall was severe from 4.06 to 4.11 a. m., with a maximum wind velocity of 46 miles and an extreme velocity of 50, both from the northeast. The third and most severe storm lasted from 4.50 to 5 a. m. The maximum wind velocity for five minutes was 46 miles, but from 4.54 to 4.56 a. m. 2 miles were recorded at a high rate, the velocity of the faster mile being at the rate of 61 miles per hour, beginning at 4.54 a. m. Undoubtedly there were short puffs of wind at a much higher velocity. The direction had been varying between east and northeast, but at 4.49 it changed to northwest. At 4.55 a. m., in the middle of the highest wind it returned to northeast. The record maximum for the station is 48 miles, made September 6, 1911, and other dates. The barometer rose suddenly 0.20 inch during the last squall but fell the full amount in a few minutes.

While nearly all parts of the city suffered, the area of greatest destruction occupied the territory bounded by the B. & O. R. R. and the business district on the north, Eighth Street on the east, South Grand Avenue on the south, and West Grand Avenue on the west, except that there was very little damage done in Washington Park. This territory embraces a little more than a square mile. Considerable damage occurred locally at a number of other places. In the north and east parts of the city the effects of the storm were less marked and but little damage resulted.

It is not thought that the storm was of a tornadic nature. No single storm cloud was observed, but one witness states that the sky was overcast with a seething, rolling, mass that had the appearance of boiling. Another witness describes the clouds in the same manner and states further that these clouds were moving from the northwest, and that during the highest wind, when the trees and limbs were crashing down, the clouds suddenly reversed their direction, blowing from the southeast. When the clouds came together they had the appearance of water waves striking a pier. It is thought that this occurred at the time of change in wind direction as mentioned above. While trees fell in all directions, the general direction in all parts of the city was toward the southeast. In some cases the trees in a single yard lay in several directions.

The storm of September 6 was pronounced by old residents to be the worst wind storm in the history of the city, but compared with the later storm it was of minor importance.

The greatest single loss was the damage to the Illinois State Capitol Building. Two sections of the copper roofing on the dome were ruined and a large part of the main building lost its copper roof. Large sheets, 50 to 75 feet long, were ripped from the roof and dome, crinkled up like paper and hurled to the ground. The loss was $25,000. A small concrete plant on Jefferson Street, part of which was used as a dwelling, was destroyed and the occupants had a narrow escape. The second story of a house across the street was crushed by flying timbers. Among the other important losses are the following: Sattley Plow Works, wall of warehouse blown down, loss $2,500; State Fair Grounds, loss $5,000; north wall of boiler works; the back of the three-story building occupied by the Capital City Garage was blown 18 inches out of plumb; at the West End coal shaft an 80-foot stack fell on the engine house, destroying it. Hundreds of business houses and residences were more or less damaged, some by wind and others by falling trees and limbs. The injuries were in most cases of a minor character. Many signs, billboards, and windows were damages or destroyed, and a number of business houses suffered from the rain entering through the broken windows and roofs.

The most notable feature of the storm was the damage to the city's shade trees. Springfield is noted for its beautiful trees, especially throughout the district most affected by the storm. Hundreds of trees were either broken off or uprooted, and thousands were partially or entirely stripped of limbs and branches. In many places the streets were impassable. Nearly every yard in the

region of greatest destruction showed the effects of the storm. A number of large trees were destroyed in Lincoln Park in the first storm, and a few more were lost in the second one, but Washington Park escaped with but little loss.

The trees in falling carried down electric wires, which in turn often broke or bent the supporting poles. No cars were run on the street railway or interurban lines until 9 a. m., and complete service was not resumed until afternoon. In many cases there was no electric-light service for several days. The loss to the above-mentioned services was $5,000, confined entirely to poles and wires, but this amount does not include the loss of business. The Interstate Telephone Co. had 400 lines down in the city, and the loss to the Central Union Telephone Co. amounted to four or five thousand dollars. A number of days were required to restore telephone service on all lines. The telegraph companies suffered some losses also.

The newspapers reported damage from wind in a number of central Illinois towns. In the rural districts in this county haystacks and outbuildings were damaged or destroyed, and in some cases houses and barns were moved from their foundations. The farmers suffered most from damage to corn and fruit, the greatest loss occurring in the east and south parts of the county, while in portions of the north and west ends the damage was slight. The region of destruction also extends westward from Springfield to Farmingdale, 10 miles distant, immediately beyond which there is little damage. However, in all parts of the county the loss seems to be in spots, some localities suffering but little. A great deal of corn has been prostrated, as much as three-fourths being down in some fields. A prominent farmer at Rochester estimates the corn loss in that neighborhood as high as 25 per cent. The apple and peach trees were heavily laden this year. A great deal of the unpicked fruit was blown from the trees, and in many places they were nearly stripped. The loss to the agricultural interests will be heavy.

No fatalities occurred in Springfield and no one was seriously injured. This was due to the fact that the streets were deserted at so early an hour. Two linemen at Edinburg were electrocuted during the day while repairing wires. No other deaths or injuries were reported in any of the storm-swept region.

The newspapers estimate the loss for Springfield and vicinity at $250,000, and for central Illinois at nearly a million dollars, but it is thought that these figures are too high. These estimates take no account of the damage and destruction of shade trees, a loss that can not be given a money value.

TABLE 1.—*Climatological data for September, 1911. District No. 5, State of North Dakota.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
North Dakota.																				
Amenia	Cass	954	14	55.8	− 1.2	91	1†	30	26	50	2.81	+ 1.08	0.96	0	8	9	4	17	sw.	C. E. Wood.
Ashley	McIntosh	2,001																		F. F. Zimmerman.
Bottineau	Bottineau	1,638	16	51.4	− 5.7	78	1	30	19†	39	2.70	+ 1.19	0.70	0	12	5	11	14	se.	A. J. Carlson.
Cando	Towner	1,488	10	52.4	− 2.5	80	1	29	25†	41	2.00	− 0.91	0.60	0	9					E. T. Judd.
Crosby	Divide		5	51.8		82	3	25	24	36	2.56		0.97	T.	8	17	5	8	sw.	H. C. Kashau.
Devils Lake	Ramsey	1,482	6	53.4	− 2.2	82	1	33	27	33	2.22	+ 0.83	0.63	0	11	8	14	8	w.	U. S. Weather Bureau.
Donnybrook	Ward	1,760	12	52.4	− 3.2	79	15	28	25	38	3.23	+ 1.93	0.98	T.	8	11	7	12	nw.	C. J. De Vore.
Dunseith	Rolette		14																	L. H. Trowbridge.
Edmore	Ramsey	1,524	6	52.8		86	1	23	24	42	1.81		0.58	0	8	12	10	8	w.	H. R. Aslakson.
Fessenden	Wells	1,610																		G. T. Seymour.
Forman	Sargent	1,249	17	59.6	− 1.4	95	1	33	19	49	3.45	+ 1.65	1.10	0	6	9	7	14	nw.	A. Maltby.
Grafton	Walsh	827	20	52.9	− 2.7	83	1	25	24	27	2.06	+ 0.08	0.80	0	13	8	7	15	s.	A. R. T. Wylie.
Granville	McHenry	1,504	5	52.2		79	3†	32	12	47	2.90		1.34	0	7	6	13	11	nw.	W. A. Christianson.
Hannah	Cavalier	1,568	6	51.0		79	9†	21	24	47	2.05		0.76	0	8				nw.	J. Moffatt.
Hansboro	Towner		3	51.6		77	1†	26	24	42	2.14		0.65	0	9	14	9	7	nw.	Geo. Dale.
Hillsboro	Traill	901	6	57.6		85	16	28	26	36	1.68		0.52	0	5	12	11	7	nw.	F. E. Mayall.
Lakota	Nelson	1,579	5	52.0		80	1	28	24†	38	2.61		0.75	0	13	6	19	5	sw.	C. R. Pettes.
Langdon	Cavalier	1,615	16	50.0		74	1	27	24	37	2.10		0.69	0	11	12	0	18	w.	J. Woolner.
Larimore	Grand Forks	1,134	16																	J. Dexter Pierce.
Lisbon	Ransom	1,091	7	56.4	− 2.0	92	1	29	26	45	3.79	+ 2.08	0.75	0	11	11	3	16	se.	H. K. Adams.
McKinney	Renville	1,640	17	52.0	− 1.1	80	15	27	25	38	3.63	+ 2.13	0.90	0	9	7	13	10	nw.	N. P. Swenson.
Manfred	Wells	1,605	10	54.1		83	1	32	27	40	2.92		0.77	0	12	13	11	6	nw.	P. B. Anderson.
Mayville	Traill	975	15	60.4	− 5.0	84	1†	30	25	35	2.61	− 0.01	0.90	0	7	13	3	4		W. C. Gould.
Minot	Ward	1,557	13	54.0	− 3.7	82	15	31	25	40	2.28	+ 1.08	0.80	0	11	15	4	11	w.	J. J. Bates.
Minto	Walsh	820	18	54.0	− 2.1	83	1	28	24	39	1.96	− 0.20	0.46	0	11	11	7	12	nw.	S. S. Marsh.
Oriska	Barnes	1,270	6																	W. E. Williams.
Park River	Walsh	998	8	57.7		93	1	28	24	46	2.22		0.48	0	11	13	13	4	w.	A. Heyward.
Pembina	Pembina	789	13	52.0	− 1.7	80	1†	25	24	50	0.89	− 1.44	0.40	0	5	15	3	12	ne.	C. W. Shumaker.
Power	Richland	1,020	19	56.2	− 2.0	87	1†	31	25	42	3.90	+ 2.14	1.76	0	9	11	11	8	se.	J. A. Power.
Pratt	McHenry		6																	W. B. Ahern.
Towner	do		3	55.7		88	3	30	28	44	1.91		0.62	0	6	17	6	7	w.	B. Bagley.
University	Grand Forks	830	19	54.0	− 1.4	82	1	27	26	37	1.22	− 0.88	0.33	0	14	12	7	11	w.	U. S. Weather Bureau.
Wahpeton	Richland	962	19	55.3	− 3.4	88	2	32	24	40	2.61	+ 0.48	0.50	0	9	12	7	11	se.	E. G. Burch.
Walhalla	Pembina	966	7	54.5		79	1	25	24	38	1.73		0.52	0	13	20	2	8	n.	Ivan DeL. Lee.
Westhope	Bottineau		5	53.8		82	1	28	25	43	2.68		0.91	0	7	4	18	8	w.	W. A. Meddaugh.
Willow City	do	1,471	18	52.4	− 1.9	79	13	27	19	42	2.50	+ 0.77	0.61	0	9	9	15	6	w.	M. A. Ostby.
Minnesota.																				
Albert Lea	Freeborn	1,229	20	61.2	+ 0.2	92	1	40	26†	33	3.90	+ 0.52	1.65	0	8	7	17	6	se.	Edward Carey.
Alexandria	Douglas	1,391	17	57.2	− 1.0	89	16	37	5	39	3.85	+ 1.65	1.20	0	12	13	1	16	nw.	P. O. Unumb.
Angus	Polk	870	9	53.0		82	1†	26	25	39	1.46		0.47	0	10	12	10	8	n.	John Nadvornik.
Bagley	Clearwater		5	51.6		84	17	25	26	45	3.10		1.00	0	9	2	19	9	se.	Jens Nelson.
Beardsley	Bigstone	1,090	17																	R. J. Buckley.
Beaulieu	Mahnomen	1,200	9	55.3		84	16	25	26	43	2.26		0.55	0	9	10	12	8	sw.	Dr. P. A. Slattery.
Bemidji	Beltrami	1,400	9								3.23		1.18	0	11					C. W. Warfield.
Bird Island	Renville	1,039	21	60.0	− 0.8	91	16	36	29	43	2.90	− 0.07	0.73	0	12	6	9	15	se.	Dr. F. L. Puffer.
Caledonia	Houston	1,179	18	59.4	− 1.3	84	1	36	26†	33	2.66	− 1.51	0.90	0	10	14	4	12	nw.	W. D. Belden.
Campbell	Wilkin	984	2	56.2		91	1	31	24	46	2.85		0.80	0	10	11	0	19	nw.	J. T. Neisess.
Cass Lake	Cass	1,300	4								1.75		1.50	0	2					C. W. Burns.
Collegeville	Stearns	1,282	18	58.5	− 2.1	86	16	41	24†	32	2.95	+ 0.46	0.83	0	12	13	6	11	s.	Fridolin Tembreul.
Crookston	Polk	863	21	54.1	− 2.5	80	1†	31	26	33	1.23	− 0.81	0.55	0	8	12	1	17	s.	A. G. Andersen.
Detroit	Becker	1,364	15	54.6	− 2.0	88	16	28	25	46	2.47	− 0.20	0.80	0	6	8	9	13	sw.	G. W. Peoples.
Ely	St. Louis			52.2		80	16	29	28	34	3.43		1.00	0	15	10	10	10	se.	Rev. W. H. Farrell.
Fairmont (near)	Martin	1,240	24	61.2	+ 0.4	93	1	41	19†	34	4.81	+ 1.77	1.10	0	11	9	11	10	e.	W. F. Wherland.
Faribault	Rice	1,003	14																	Dr. A. B. Moulton.
Farmington	Dakota	902	23	60.2	− 0.2	89	16	36	30	31	4.55	+ 1.13	1.24	0	10	9	7	14	sw.	E. D. Akin.
Fergus Falls	Ottertail	1,210	19	58.0	− 1.0	86	1	38	24	31	3.91	+ 1.66	1.09	0	11	8	14	8	se.	C. E. Kissinger.
Fort Ripley	Crow Wing	1,136	4	56.4		88	18	29	26	43	3.53	+ 1.31	1.80	0	7	16	0	14	s.	J. J. Tucker.
Fosston	Polk	1,289	2	53.8		85	16	27	26	38	2.13		0.70	0	11	14	9	7	nw.	O. N. Hem.
Fram	Marshall			51.2		85	16	22	12†	44	1.92		0.50	0	13	1	23	6	se.	A. W. Clark.
Glencoe	McLeod	1,000	15	61.1	+ 1.5	86	16	40	19†	40	2.40	− 1.27	0.75	0	5	20	9	1	s.	F. B. Reed.
Grand Meadow	Mower	1,338	23	60.6	+ 0.7	92	1	36	26	36	4.58	+ 1.23	0.99	0	17	9	10	11	se.	C. F. Greening.
Gull Lake Dam	Cass	1,215		52.5		80	1	29	26	30	2.32		0.84	0	11	7	14	9	nw.	G. A. Williams.
Hallock	Kittson	815	12	53.4	− 1.8	82	1	25	24	37	2.25	− 0.70	0.80	0	10	14	5	11	s.	D. A. Robertson.
Halstad	Norman	870	5	55.2		86	16	29	26	42	2.05		0.75	0	13	12	3	15	n.	A. G. Holstrom.
Hinckley	Pine	1,050	6	56.3		84	16	31	26	34	6.21		2.40	0	8	10	7	13	sw.	W. R. Newman.
International Falls	Koochiching	1,112	3	53.4		85	16	28	26	45	1.00		0.58	0	5	12	8	10	ne.	Rees Roe.
Itasca State Park	Clearwater	1,500		55.4		86	16†	28	25†	48	3.46		0.80	0	13	13	5	12	nw.	J. A. Stillwell.
Kelliher	Beltrami		4																	A. Gilmour.
Lake Crystal	Blue Earth		4	61.0		90	1	38	26	35	4.17		1.82	0	10	8	10	12	s.	W. P. Cobb.
Leech Lake Dam	Cass	1,301	23	53.0	− 1.4	83	16	24	26	44	2.61	− 0.25	0.46	0	15	6	13	11	se.	Hans Olson.
Littlefork	Koochiching			49.7		85	17	22	26†	48	1.33		0.58	0	8	14	10	6		O. C. Olson.
Long Prairie	Todd	1,299	19	56.5	− 1.9	85	16	29	29	43	3.92	+ 1.35	1.65	0	6	7	7	16	nw.	A. L. Sheets.
Lynd	Lyon	1,175	19	59.3	− 1.0	89	16	37	29	39	1.98	− 0.58	0.75	0	8	13	11	6	sw.	J. W. Rouse.
Mankato	Blue Earth	758	12								3.36	+ 0.39	1.10	0	8	12	6	12	ne.	Sadie H. Blake.
Milaca	Mille Lacs	1,072	13	55.2	− 2.0	85	16	29	28	42	4.71	+ 1.37	1.41	0	12	3	15	9	se.	C. H. Foss.
Milan	Chippewa	955	17	58.6	− 1.3	90	16	36	19†	45	3.07	+ 0.96	1.16	0	6	2	22	6	se.	O. K. Opjorden.
Minneapolis	Hennepin	918	20	59.2	− 3.0	88	16	41	30	31	5.83	+ 2.17	2.08	0	12	7	7	16	s.	U. S. Weather Bureau.
Montevideo	Chippewa	900	21	59.8	− 1.5	93	16	38	19†	44	2.97	+ 0.84	0.79	0	11	9	4	17	se.	L. G. Moyer.
Moorhead	Clay	935	30	55.9	− 0.7	87	1	34	24	38	2.15	− 0.15	0.98	0	10	11	7	12	se.	U. S. Weather Bureau.
Mora	Kanabec		6	57.5		86	16	29	26	43	5.06		1.43	0	15	20	2	8	se.	Hans Peterson.
Morris	Stevens	1,170	26	58.1	− 1.1	85	16	38	26	34	3.47	+ 1.26	1.02	0	8	18	7	5	s.	D. T. Wheaton.
New London	Kandiyohi	1,215	17	58.8	− 1.6	84	16	40	25†	26	3.55	+ 1.28	1.15	0	11	2	12	16	sw.	Harold Swensen.
New Richland	Waseca	1,180	17	61.2	− 0.8	92	1	40	26	37	2.80		0.61	0	11	8	13	9	sw.	N. O. Tyrholm.
New Ulm	Brown	791	31	60.0	− 1.9	93	1	40	26	35	3.10	+ 0.01	1.15	0	11	14	1	15	s.	A. L. Henle.
Osakis	Douglas	1,343	4	56.4		86	16	34	26	37	3.01		0.88	0	13	8	4	18	s.	J. B. Johnson.
Park Rapids	Hubbard	1,426	21	53.2	− 2.6	83	1†	29	25	39	3.28	+ 1.06	0.94	0	17	12	1	17	nw.	Dr. P. A. Walling.
Pine River Dam	Crow Wing	1,251	24	54.6	− 2.5	82	17	27	26	38	2.80	+ 0.13	0.85	0	11	9	13	8	se.	Nell McKay.
Pokegama Falls	Itasca	1,280	24	53.0	− 1.1	80	16	28	12†	42	4.72	+ 1.76	1.27	0	15	6	13	11	sw.	A. L. Mampel.
Redlake	Beltrami	1,152	3	55.4		83	16	31	25†	38	2.67		1.02	0	9	8	10	12	s.	A. C. Goddard.
Red Wing	Goodhue	680	15								4.14	− 0.40	1.12	0	12	13	4	13	se.	Louis Bach.
Redwood Falls	Redwood	1,050	4	61.8		93	16	39	19†	42	2.62	+ 0.92	0.80	0	11	13	9	8	se.	N. B. Andersen.
Reeds Landing	Wabasha	681	16								4.83	+ 0.90	1.52	0	10	14	0	16	se.	John Deschneau.
Rochester	Olmstead	991	6	59.0		88	1	33	26	36	2.74		0.74	0	8	7	8	15	sw.	S. R. Case.
Roseau	Roseau	1,040	3	51.6		82	16	22	24	44	1.47		0.45	0	6	14	0	16	w.	A. Waag.

TABLE 1.—*Climatological data for September, 1911. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Minnesota—Continued.																				
St. Charles	Winona	850	20	61.4	+ 0.4	85a	1†	35a	26	37a	2.67	− 0.90	0.62	0	11	10a	7a	12a	n.	S. W. Gleason.
St. Cloud	Sherburne	1,020	33	59.2	− 0.1	87	16	34	26	37	3.41	+ 0.09	1.02	0	14	13	4	13	se.	J. H. Capser.
St. Paul	Ramsey	837	40	59.0	− 1.3	88	16	39	26	32	5.27	+ 1.85	1.27	0	13	7	12	11	se.	U. S. Weather Bureau.
St. Peter	Nicollet	825	17	61.6	− 0.5	87	1	37	26	35	3.89	+ 0.12	1.30	0	8	9	7	14	s.	State Hospital.
Sandstone	Pine																			A. D. Hale.
Sandy Lake Dam	Aitkin	1,234	18	54.4	− 2.3	79	16	31	12	38	3.27	+ 0.59	0.64	0	10	3	18	9	se.	A. Newstrom.
State Sanatorium	Cass		3			82	16				2.90		0.63	0	17	8	11	11	sw.	Dr. L. B. Ohlinger.
Stillwater	Washington	694	6								3.97		1.15	0	13	11	4	15	se.	Oscar Ostrom.
Taylors Falls	Chisago	759	4	59.3		87	17	35	26	44	5.56		1.50	0	10	11	7	12	n.	Mpls. Gen. Elec. Co.
Tracy	Lynd																			B. L. English.
Warroad	Roseau	1,069	2	50.1		83	16	24	12	46	2.10		0.55	T.	12	10	6	14	w.	J. H. Sawyer.
West Concord	Dodge	1,232	2																	H. H. Orcutt.
Winnebago	Faribault	1,100	12	61.2	− 0.8	95	1	40	26	37	3.23	+ 0.07	1.93	0	11	11	7	12	se.	H. H. Haight.
Winnibigoshish	Itasca	1,300	23	55.0	− 1.4	81	16	33	12†	34	2.30	− 0.88	0.50	0	15	10	12	8	sw.	John Duncan.
Winona	Winona	700	15	62.6	+ 0.5	93	1	37	30	37	2.90	− 0.83	0.60	0	15	9	6	15	w.	P. C. Myers.
Worthington	Nobles	1,593	16	59.7	− 1.1	88	1	40	19	30	5.49	+ 2.30	2.92	0	9	12	1	17	s.	M. P. Mann.
Zumbrota	Goodhue	917	15	60.0	− 0.6	89	16	32	25	39	3.19		1.10	0	10	10	13	7	se.	W. C. Rowell.
South Dakota.																				
Milbank	Grant	1,148	20	57.9	− 2.9	91	1	35	24†	42	3.19	+ 1.40	0.92	0	10	12	4	14	se.	I. T. Patridge.
Wisconsin.																				
Antigo	Langlade	1,489	17	56.4	− 1.6	85	16	30	26	40	6.01		1.85	0	11	12	5	13	w.	Elton C. Larzelere.
Barron	Barron	1,115	20	56.2	− 2.3	82	16	30	2††	40	6.75	+ 3.61	1.74	0	12	11	9	10	se.	Wm. A. Kent.
Beloit	Rock	750	45	63.0	− 0.6	80	1†	39	30	33	6.70	+ 3.31	2.62	0	10	17	0	13	nw.	Smith Observatory.
Big St. Germain Dam	Vilas	1,590	1	51.0		82	16	26	26	37	3.31		0.76	0	14	12	7	11	sw.	Oscar Brehmer.
Brodhead	Green	812	13	64.2	+ 0.8	93	1	37	30	41	4.71	+ 1.08	1.43	0	12	11	16	3	sw.	Hector D. Kirkpatrick.
Burnett	Dodge	880	7	60.8		90	1	33	30	40	5.19		1.46	0	11	10	8	12	se.	Geo. W. Smith.
Cottage Grove	Dane	888									4.48		1.14	0	13	11	13	6	sw.	John E. Mellish.
Darlington	Lafayette	867	5	62.8		92	1	33	30	44	6.05		2.30	0	10	11	8	11	se.	S. P. Nelson.
Deerskin Dam	Forest	1,625	1	51.6		80	1	18	28	47	2.78		0.60	0	11	16	6	8	w.	Wm. E. O'Neal.
Delavan	Walworth	920	20	63.0	+ 0.2	88	1†	35	30	36	8.78	+ 5.37	2.85	0	12	8	10	12	sw.	Elwood S. Austin.
Dodgeville	Iowa	1,116	11																	Geo. H. Butler.
Downing	Dunn	983	9	56.9b	− 1.7	84b	16	28b	26	39b	6.54	+ 2.77	1.60	0	10	3b	0b	25b	se.	Eugene F. Stoddard.
Eau Claire	Eau Claire	800	20	59.7	− 1.4	85	1†	34	30	35	6.22	+ 2.29	1.60	0	16	9	12	9	nw.	Robert D. Whitford.
Grand Rapids	Wood	1,021	12	58.8	− 2.2	88	1	32	26	37	7.04	+ 4.11	1.79	0	14	14	4	12	e.	Willis B. Raymond.
Grantsburg	Burnett	1,095	20	58.0	− 0.6	89	16	29	26	45	3.40	− 0.78	1.55	0	6	8	7	15	sw.	Theodore Olsen.
Hancock	Waushara	1,091	19	60.8	− 0.2	90	1	36	30	35	5.81	+ 2.93	1.75	0	13	12	5	13	nw.	Frederick B. Hamilton.
Hatfield	Jackson	973	17	58.8	− 2.0	88	1	29	30	42	6.79	+ 3.30	1.32	0	13	2	18	10	se.	Walter S. Woods.
Hayward	Sawyer	1,197	20	55.4	− 2.2	85	16	28	30	44	5.43	+ 1.50	1.85	0	12	7	9	14	se.	William E. Swain.
Hillsboro	Vernon	1,000	20	58.8	− 1.7	88	1	28	30	43	6.65	+ 3.60	1.79	0	10	10	13	7	sw.	Emil V. Wernick.
Koepenick	Langlade	1,683	20	54.1	− 4.8	82	1	25	26	38	5.90	+ 1.69	0.90	0	14	0	21	9	nw.	Edward S. Koepenick.
Lac du Flambeau	Vilas		1	55.4		87	17	30	30	46	3.61		1.02	0	9	5e	3e	7e	s.	W. J. Lovett.
La Crosse	La Crosse	714	39	61.2	− 0.5	88	1	39	30	33	5.00	+ 0.88	1.31	0	18	6	9	15	s.	U. S. Weather Bureau.
Lake Mills	Jefferson	897	20	62.8	+ 0.4	88	1	38	30	33	6.07	+ 2.88	1.56	0	14	8	14	8	se.	S. Newton Dexter Smith.
Lancaster	Grant	1,070	20	62.5	+ 0.5	89	1	35	30	36	3.43	+ 0.12	1.05	0	10	5a	13a	11a	se.	Edward Pollock.
Long Lake	Oneida	1,592	3	53.9		82	16	22	28	42	2.74		0.59	0	15	11	9	10	s.	Louis Frank.
Madison	Dane	974	42	62.5	+ 1.4	88	1	43	30	30	5.85	+ 2.67	1.52	0	13	9	7	14	sw.	U. S. Weather Bureau.
Mather	Juneau	962	7	56.8		90	1	30	30	41	6.32		2.04	0	13	8	9	13	e.	Frank Evans.
Mauston	do	882	15	60.1	− 0.7	85	1	32	30	34	5.58	+ 2.42	1.15	0	12	10	9	11	nw.	Eugene L. Hitchcock.
Meadow Valley	do	974	20	58.4	− 1.9	91	1	31	30	45	6.07	+ 2.45	1.63	0	15	3	19	8	se.	Charles H. Johnson.
Medford	Taylor	1,420	22	56.6	− 3.1	85	16	32	26	37	7.32	+ 3.27	1.85	0	11	16	10	4	s.	Wm. Zeit.
Merrill	Lincoln	1,267	5					32	26		7.24		2.53	0	11	16	1	13	s.	J. M. Wilson.
Minocqua	Oneida	1,604	7	55.6		83	16	33	28	35	3.51		0.76	0	13	6	14	10	se.	Benjamin W. Applebee.
Mondovi	Buffalo	738	3	60.4		88	17	32	30	36	4.46		1.00	0	16	12	7	11	nw.	Dr. Chas. Hebard.
Mount Horeb	Dane	1,226	7	62.0		86	14	37	30	32	4.58		1.15	0	11	15	6	9	sw.	W. M. Lewis.
Muscoda	Grant	666	2	62.4		89	17	37	30	39	4.95		2.58	0	8	16	3	11	n.	Wm. Hessler.
Neillsville	Clark	996	21	59.0	− 0.4	90	16	30	30	41	8.11	+ 4.34	2.40	0	10	10	0	20	nw.	Wm. Heaslett.
New Richmond	St. Croix	990	6	58.2		88	16	33	27	41	4.31		1.27	0	14	7	11	12	se.	Franc A. R. Van Meter.
Osceola	Polk	806	20	58.1	− 1.8	88	15	35	26	35	7.01	+ 2.96	2.57	0	13	5	13	12	s.	Charles W. Staples.
Park Falls	Price	1,492	20	54.7d		87d	17	30d	30	46d	3.90		0.93	0	13	9d	8d	9d	w.	Flambeau Paper Co.
Portage	Columbia	809	22						38	30	5.50	+ 2.67	1.13	0	15	10	11	9	w.	James H. Martin.
Port Edwards	Wood	969	1	60.4		89	1	33	26	40	6.43		2.45	0	12	11	0	19	nw.	Nekoosa-Edwards Paper Co.
Prairie du Chien	Crawford	690	20	62.6	− 1.2	90	1†	39	30	38	2.78	− 0.66	1.14	0	6	15	3	12	s.	James H. Gillis.
Prentice	Price	1,551	13	54.3	− 2.5	83	16†	25	26	41	4.47	+ 0.61	1.85	0	10	9	5	16	sw.	Joseph G. Lash.
Rhinelander	Oneida	1,550	5	56.6		82	1	30	26†	34	4.45		0.76	0	15	13	3	14	e.	Rhinelander Power Co.
Shullsburg	Lafayette	1,019	5	62.6		86	1	36	30	33	4.74		1.51	0	11	10	7	13	se.	Harrison B. Chamberlain.
Solon Springs	Douglas	1,083	5	54.0		84	15	27	30†	45	2.95		1.00	0	4	11	5	14	nw.	John M. Sayles.
Spooner	Washburn	1,104	17																	Horace A. Bresee.
Stanley	Chippewa	1,082	7	57.4		84	1†	31	30	38	6.04		1.58	0	12	16	1	13	nw.	W. Humphrey Scott.
Stevens Point	Portage	1,113	18	60.4e	0.0	88e	17	36e	30	38e	5.22	+ 1.88	2.14	0	7	11e	8e	8e	w.	Garry E. Culver.
Sugar Camp Dam	Oneida	1,582	1								3.03		0.60	0	15				se.	Robert Hayes.
Twin Lakes Dam	Vilas	1,625	1								2.37		1.00	0	6	13	11	6	nw.	Albert D. Hansen.
Valley Junction	Monroe	930	19	58.8	− 1.3	87	1	29	30	39	8.26	+ 4.53	1.48	0	12	5	15	10	s.	Frederick Muermann.
Viroqua	Vernon	1,412	21	62.4	+ 1.3	88	1	36	30	35	4.83	+ 0.98	1.43	0	16	6	13	11	se.	Henry E. Rogers.
Vudesare	Vilas	1,600	3	52.8		80	17	28	26	42	2.59		0.82	0	6	16	8	6	w.	Louis L. Thomas.
Watertown	Jefferson	824	20	62.2	+ 0.9	88	1	35	30	35	5.76	+ 2.58	2.00	0	12	12	10	8	sw.	Charles J. Salick.
Waukesha	Waukesha	864	20	63.1	+ 0.7	91	1	38	26	40	4.78	+ 1.73	1.42	0	8	7	19	4	sw.	Carroll College.
Wausau	Marathon	1,212	16	58.0a	− 1.2	84a	1	33a	26	34a	6.48	+ 2.78	1.65	0	11	11	6	13	w.	George H. Halder.
Weyerhaeuser	Rusk	1,297	9	54.8		84	16	26	30†	40	7.04		2.15	0	15	12	5	13	sw.	Miss Etta Stiles.
Whitehall	Trempealeau	675	20	59.7	− 1.9	86	1	32	30	35	5.30	+ 1.50	1.30	0	8	13	0	17	nw.	Hans J. Haugh.
Iowa.																				
Albia	Monroe	959	13	68.2	+ 3.4	99	1	41	20	39	10.21	+ 6.65	4.31	0	15	6	8	16	e.	J. I. Chenoweth.
Algona	Kossuth	1,213	37	64.6	+ 2.7	97	1	44	19	34	4.58	+ 1.44	1.43	0	8	11	6	13	se.	Dr. F. T. Seeley.
Alta	Buena Vista	1,513	20	63.2	+ 0.3	96	1	40	19	36	4.74	+ 1.56	2.85	0	7	8	12	10	se.	David E. Hadden.
Amana	Iowa	721	35	65.0	+ 2.5	88	1	42	26	38	6.78	+ 3.53	1.75	0	14	11	11	8	nw.	C. Schudt.
Ames	Story	926	35	67.5	+ 4.0	99	1	40	26	50	7.18	+ 3.79	2.06	0	12				nw.	Iowa State College.
Baxter	Jasper	998	11	65.0	+ 2.0	98	1	40	26	45	5.61	+ 2.19	1.68	0	11	8	11	11	se.	W. R. Vandike.
Belle Plaine	Benton	828	21	64.7	+ 1.1	94	1	40	26	43	5.92	+ 2.96	2.10	0	13	9	10	11	se.	S. P. Van Dike.
Belmond	Wright		1	63.4		95	1	37	26	42	3.86		1.20	0	10	3	14	13	se.	Geo. P. Hardwick.
Bloomfield	Davis		4	70.6		100	1	42	26	40	13.73		7.00	0	20	11	3	16	sw.	Albert Power.
Bonaparte	Van Buren		20	68.0	+ 0.6	96	1	46	19	39	12.55	+ 8.51	3.52	0	17					B. R. Vale.

TABLE 1.—*Climatological data for September, 1911. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Iowa—Continued.																				
Boone	Boone	1,134	6	63.9	.....	96	1	42	19	34	4.42	.....	1.96	0	11	...	...	...	.....	Carl Fritz Henning.
Britt	Hancock	1,236	14	62.4	+ 0.7	95	1	40	19†	41	4.54	+ 0.80	1.35	0	11	8	12	10	s.	L. H. Goodman.
Buckingham	Tama		11	.....	.....	...	...	...	...	...	6.89	+ 3.90	3.24	0	9	...	...	...	.....	J. S. Guynn.
Burlington	Des Moines	544	15	67.6	+ 1.4	94	1	45	30	39	13.17	+10.05	3.25	0	13	15	0	15	s.	Max E. Poppe, jr.
Carroll	Carroll	1,265	21	64.3	+ 1.3	95	1	39	19	41	2.29	− 0.60	0.85	0	9	...	...	...	ne.	Mrs. Jos. J. Wolfe.
Cedar Rapids	Linn	733	29	64.6	+ 0.6	92	1	43	30	37	4.65	+ 1.83	1.30	0	8	16	0	14	e.	Chas. B. Graf.
Charles City	Floyd	1,015	20	62.0	+ 0.3	92	1	37	26	35	4.11	+ 1.31	1.53	0	12	5	9	16	se.	U. S. Weather Bureau.
Clear Lake	Cerro Gordo	1,241	13	64.4	+ 2.2	96	1	38	26	36	4.43	+ 1.47	1.25	0	5	14	0	16	s.	Oscar Stevens.
Clinton	Clinton	593	44	65.0	+ 1.7	89	14	41	30	35	5.25	+ 1.94	1.30	0	14	7	11	12	ne.	Luke Roberts.
Columbus Junction §	Louisa	595	10	67.9	+ 2.4	92	1	45	30	33	7.40	+ 4.25	2.00	0	14	16	7	7	n.	J. B. Johnston.
Davenport	Scott	580	40	67.2	+ 2.5	95	1	45	30	34	5.13	+ 1.99	1.49	0	14	9	7	14	e.	U. S. Weather Bureau.
Decorah	Winnishiek	875	18	63.0	+ 0.9	92	1	35	30	40	2.98	+ 0.75	1.06	0	7	...	...	...	.....	F. H. Baker.
Delaware	Delaware	1,083	20	62.6	+ 0.8	87	14	38	30	32	2.83	− 0.44	0.67	0	9	11	12	7	se.	William Ball.
Des Moines	Polk	861	33	67.0	+ 2.0	97	1	46	19	40	7.68	+ 4.61	2.30	0	11	8	8	14	se.	U. S. Weather Bureau.
Dubuque	Dubuque	639	38	64.0	+ 0.4	90	14	41	30	32	3.56	− 0.03	1.73	0	13	6	10	14	se.	Do.
Earlham	Madison		9	66.9	.....	97	1	37	19	48	3.50	.....	1.31	0	8	14	2	14	sw.	George Phillips.
Elkader	Clayton	727	32	63.5	+ 1.0	94	1	34	30	48	5.04	+ 1.20	1.80	0	10	12	12	6	se.	Chas. Reinecke.
Elma	Howard		2	61.0	.....	87	1	33e	26	34e	3.16	.....	1.28	T.	13	7	14	9	se.	H. A. Moore.
Estherville	Emmet	1,298	16	60.3	− 0.4	96	1	38	26	38	4.46	+ 1.23	2.75	0	10	...	...	...	s.	A. O. Peterson.
Fairfield	Jefferson		27	67.5	+ 3.5	96	1	45	1	51	7.27	+ 3.80	2.50	0	17	13	7	10	w.	R. Monroe McKenzie.
Fayette	Fayette	1,003	21	62.2	− 0.1	91	1	33	30	42	4.97	.....	2.40	0	12	13	8	9	se.	R. Z. Latimer.
Forest City	Winnebago	1,226	17	61.4	− 0.6	96	1	39	26	40	4.83	+ 1.21	1.37	0	8	10	8	12	s.	J. A. Peters.
Fort Dodge	Webster	1,126	11	64.6	+ 2.0	99	1	40	26	42	8.38	+ 3.81	4.50	0	7	...	...	...	s.	J. F. Monk.
Fort Madison	Lee	516	62	.....	.....	...	...	...	...	...	13.21	+ 9.40	4.50	0	10	5	9	16	sw.	Miss L. A. McCready.
Gilman	Marshall	1,052	12	.....	.....	...	...	...	...	...	4.89	+ 1.99	2.21	0	10	...	...	...	.....	J. L. Wylie.
Grand Meadow	Clayton	1,180	20	61.8	− 0.1	85	1	36	26	30	3.54	− 0.09	1.85	0	10	9	10	11	se.	F. L. Williams.
Grinnell	Poweshiek	1,023	19	66.4	+ 2.6	99	1	42	26	43	7.08	+ 4.73	2.13	0	12	12	8	10	w.	D. W. Brainard.
Grundy Center	Grundy	976	20	65.2	+ 2.1	95	1	35	26	43	5.59	+ 2.34	1.73	0	10	18	0	12	se.	J. B. Calderwood.
Guthrie Center	Guthrie	1,077	16	65.6m	+ 1.7	90m	17	39m	19	33m	.....	.....	2.09	0	...	...	...	...	.....	D. G. Beardsley.
Hampton	Franklin	1,155	21	64.0	+ 1.1	97	1	38	26	40	5.12	+ 1.56	1.70	0	9	5	15	10	se.	E. C. Grenelle.
Humboldt	Humboldt	1,095	23	64.2	+ 1.7	97	1	38	19†	41	4.24	+ 1.07	1.32	0	9	22	4	4	sw.	Henry S. Wells.
Independence	Buchanan		47	63.6	+ 1.9	89	1†	38	30	39	2.52	− 1.43	0.70	0	10	15	9	6	se.	R. E. Dudley.
Indianola	Warren	969	20	68.6	+ 3.1	97	1	44	26	35	6.94	+ 3.84	2.26	0	10	9	6	15	se.	Prof. J. L. Tilton.
Iowa City	Johnson	683	51	64.5	+ 0.9	92	1	44	19†	42	5.07	+ 1.32	1.22	0	13	12	1	17	se.	Prof. A. G. Smith.
Iowa Falls	Hardin	1,170	18	61.4	− 0.2	94	1	36	26	46	3.19	+ 0.22	0.88	0	7	12	5	13	se.	J. B. Parmelee.
Jefferson	Greene		12	67.0	.....	101	1	39	19	52	2.07	− 1.40	0.85	0	8	...	...	...	se.	M. E. Hall.
Keokuk	Lee	547	40	69.4	+ 3.0	94	1†	51	30	28	7.67	+ 3.70	2.68	0	16	11	6	13	s.	U. S. Weather Bureau.
Keosauqua	Van Buren	644	19	68.4	+ 1.5	101	1	47	19	47	10.25	+ 5.85	2.36	0	17	3	14	13	.....	J. H. Landes.
Knoxville	Marion	920	16	68.8	+ 2.6	99	1	45	19†	41	6.80	+ 3.28	1.72	0	9	7	7	16	ne.	Casey & Bellville.
Lacona	Warren		12	.....	.....	...	...	...	...	...	6.26	+ 2.43	2.25	0	12	7	18	5	.....	J. B. Alter.
Le Claire	Scott	576	11	.....	.....	...	...	...	...	...	6.16	+ 2.38	1.05	0	13	...	...	...	.....	Miss M. T. Disney.
Marshalltown	Marshall	947	19	64.9	+ 0.8	98	1	42	26	47	6.83	+ 3.88	2.27	0	14	11	4	15	nw.	Ralph B. Reasoner.
Mason City	Cerro Gordo	1,132	14	61.8	− 1.2	93	1	34	26	41	3.53	+ 1.17	1.05	0	8	9	11	10	s.	J. S. Mills.
Monroe	Jasper			68.0	.....	92	4†	44	26	34	7.99	.....	3.83	0	6	14	6	10	s.	J. A. Dibel.
Mount Pleasant	Henry	729	30	68.0	+ 3.0	93	1	47	26†	30	10.75	+ 7.07	2.94	0	16	10	11	9	sw.	J. W. Edwards.
Muscatine	Muscatine		51	.....	.....	...	...	...	...	...	8.58	+ 4.86	2.00	0	15	...	...	...	.....	William Molis.
New Hampton	Chickasaw	1,169	14	64.0	+ 2.3	88	1	39	26†	35	3.85	+ 0.34	1.91	0	9	14	8	8	s.	A. F. Kemman.
Northwood	Worth	1,222	15	61.0	+ 0.2	92	1	35	26	38	2.17	− 1.18	0.72	0	8	...	...	...	sw.	Chas. H. Dwelle.
Olin	Jones	760	13	64.2	+ 1.1	90	1	39	30	41	4.19	+ 0.96	1.17	0	12	11	13	6	sw.	Frank W. Post.
Osage	Mitchell	1,184	24	63.4	+ 3.4	94	1	38	26	38	4.07	+ 0.51	1.49	0	8	12	5	13	nw.	Dr. A. D. Bundy.
Oskaloosa	Mahaska	843	35	67.5	+ 3.0	99	1	44	19†	45	5.81	+ 2.78	2.33	0	10	13	2	15	se.	Joseph Boyd.
Ottumwa	Wapello	649	16	70.1	+ 2.9	103	1	47	19†	42	6.22	+ 2.19	1.99	0	11	13	8	9	nw.	Chester Potter.
Pella	Marion	877	9	67.2	.....	100	1	41	19	53	6.94	.....	3.03	0	12	19	2	9	nw.	J. H. Ver Steeg.
Perry	Dallas	975	10	67.2	+ 2.8	98	1	40	19	42	3.19	+ 0.49	0.95	0	8	12	9	9	se.	Ed. S. Gray.
Plover	Pocahontas	1,426	15	63.8	+ 1.0	97	1	36	19†	43	3.49	− 0.90	1.30	0	5	21	4	5	se.	J. S. Smith.
Pocahontas	do	1,248	7	64.2	.....	97	1†	38	19	40	4.60	.....	1.61	0	9	17	6	7	s.	F. E. Hronek.
Ridgeway	Winneshiek	1,215	13	62.8	− 0.4	90	1†	35	26	35	4.54	− 0.23	1.54	0	16	12	11	7	s.	Arthur Betts.
Rockwell City	Calhoun		15	64.1	+ 0.3	95	1	45	25†	39	9.20	+ 6.02	5.25	0	8	19	10	1	.....	C. M. Randall.
Sac City	Sac	1,278	35	64.2	+ 2.7	94	1	42	26	40	5.76	+ 3.48	2.80	0	10	11	7	12	ne.	E. N. Baily.
St. Charles	Madison	1,070	10	69.3	+ 3.9	99	1	46	26	36	3.75	+ 0.11	1.30	0	11	10	15	5	se.	R. D. Minard.
Sigourney	Keokuk	877	15	67.7	+ 2.1	98	1	44	19	43	7.51	+ 4.49	2.00	0	13	2	22	6	w.	J. T. Parker.
Stockport	Van Buren	745	9	67.6	.....	98	1	45	19	45	9.54	.....	1.85	0	18	8	9	13	s.	C. L. Beswick.
Storm Lake	Buena Vista	1,440	22	63.8d	+ 1.1	96e	1	41d	19	30d	5.76	+ 2.69	2.35	0	12	...	...	...	s.	Prof. Warren Ingold.
Tipton	Cedar	807	12	67.0	+ 1.2	93	1	45	30	35	8.71	+ 5.72	2.25	0	11	13	12	5	s.	F. K. Gregg.
Toledo	Tama	856	17	65.8e	+ 1.7	93e	1	41e	26	43e	7.91	+ 4.94	2.13	0	10	...	...	...	se.	I. F. Giger.
Wapello	Louisa	588	13	67.2	+ 1.5	91	1	47	29	33	13.73	+10.29	5.29	0	13	...	...	...	se.	G. W. Schofield.
Washington	Washington	769	29	67.4	+ 2.8	96	1	45	30	40	7.36	+ 4.68	2.35	0	9	6	15	9	nw.	Wm. A. Cook.
Waterloo	Black Hawk	862	28	63.0	+ 0.2	92	1	38	26	40	2.43	− 1.45	1.00	0	6	12	3	15	nw.	Ralph B. Slippy.
Waukee	Dallas	1,039	8	67.1	.....	98	1	44	19	38	6.45	.....	1.68	0	11	13	10	7	ne.	Samuel F. Foft.
Waverly	Bremer	948	15	63.2	+ 0.7	94	1	34	26	44	3.56	+ 0.62	1.48	0	6	6	13	11	n.	Earl C. Moore.
Webster City	Hamilton		6	65.5	.....	98	1	39	19	47	5.03	.....	1.89	0	7	9	13	8	se.	C. D. Carpenter.
West Bend	Palo Alto	1,197	18	63.6	+ 2.5	96	1	38	26	38	3.17	− 0.26	1.25	0	7	10	8	12	se.	Phil. Dorweiler.
Whitten	Hardin	1,036	14	64.3	+ 1.5	92	1	40	19	38e	7.56	+ 4.27	2.42	0	8	...	...	...	se.	Dr. F. P. Butler.
Winterset	Madison	1,129	20	68.6	+ 3.0	97	1	44	19†	36	4.99	+ 1.63	1.79	0	13	6	9	15	se.	Dr. Robt. S. Cooper.
Missouri.																				
Gorin	Scotland	700	25	.....	.....	...	...	...	...	...	11.31	+ 7.09	4.00	0	14	5	6	19	se.	J. W. Pulliam.
Hannibal	Marion	534	19	71.5	+ 3.6	95	14	49	22	29	11.64	+ 8.08	2.54	0	17	9	11	10	sw.	U. S. Weather Bureau
Louisiana	Pike	500	34	70.8	+ 3.0	94	14	44	22	38	8.38	+ 5.05	2.49	0	15	14	6	10	se.	J. T. Farrell.
Mexico	Audrain	797	34	71.8	+ 3.1	98	2	48	22	44	7.89	+ 3.93	1.60	0	14	11	2	17	se.	J. F. Llewellyn.
Steffenville	Lewis	576	18	72.8	+ 4.9	105	2	50	19†	40	13.48	+ 9.42	5.25	0	14	8	12	10	e.	Frank Hall.
Sublett	Adair	1,000	32	69.6	+ 2.8	95	2	39	22	36	14.95	+10.84	4.25	0	15	6	8	16	w.	Lewis Spriggs.
Vandalia	Audrain	776	1	73.8	.....	98	2	48	22	44	6.41	.....	2.15	0	6	13	2	15	w.	C. B. Ellis.
Warrenton	Warren	865	22	73.2	+ 4.5	96	14	51	20†	33	7.24	+ 3.39	2.88	0	11	8	9	13	n.	Dr. J. H. Frick.
Indiana.																				
Collegeville	Jasper		12	67.0	+ 1.9	93	2	44	22	39	8.04	+ 5.02	4.30	0	11	11	9	10	nw.	Otto Miller.
Knox	Starke	716	6	66.0	.....	89	2	44	30	30	6.11	.....	2.34	0	15	11	10	9	s.	W. R. R. Tatman.
Laporte	Laporte	810	15	63.8h	.....	91e	1	40i	30	32i	4.03	+ 0.86	0.85	0	13	...	...	...	.....	Wm. M. Walton, jr.
Plymouth	Marshall	790	8	64.8	.....	88	2	40	30	29	4.70	.....	1.04	0	12	9	14	7	sw.	J. W. Siders.

TABLE 1.—*Climatological data for September, 1911. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Illinois.																				
Aledo	Mercer	738	11	67.3	+ 1.9	92	1	43	30	34	13.74	+ 9.34	3.51	0	17	8	12	10	se.	William B. Frew.
Alexander	Morgan	670	18	70.5	+ 2.5	93	2	49	22†	32	12.22	+ 8.28	4.11	0	19	9	7	14	sw.	George H. Hall.
Antioch	Lake	861	10	64.4	+ 1.0	93	1	41	26	41	6.16	+ 1.81	1.82	0	8	6	7	17	nw.	J. C. James.
Astoria	Fulton	650	12	68.8	+ 3.4	93	1	48	22	34	14.22	+ 9.68	5.60	0	14	10	11	9	nw.	Edward V. Bohl.
Aurora	Kane	687	32	64.7	+ 1.0	88	2	43	22	35	7.23	+ 3.57	2.84	0	12	7	6	17	ne.	W. Holden.
Beardstown	Cass	448																		Mrs. L. M. Rice.
Bement	Piatt	700	4	70.8	.....	92	2	41	30	31	10.58	.....	2.11	0	18	14	8	8	s.	Rev. C. S. Adams.
Bloomington	McLean	840	20	68.6	+ 0.6	94	1†	42	30	32	10.25	+ 6.38	1.93	0	20	11	1	18	sw.	Prof. H. N. Pearce.
Cairo	Alexander	359	33	76.7	+ 6.5	93	18	58	22	24	5.15	+ 2.68	1.56	0	13	7	13	10	s.	U. S. Weather Bureau.
Carbondale	Jackson	412	6	77.6	.....	97	12	52	22	33	5.70	+ 3.09	2.16	0	14	10	16	4	sw.	State Normal University.
Carlinville	Macoupin	663	21	72.6	+ 3.2	96	14	48	22	31	5.98	+ 2.38	1.23	0	14	15	13	2	sw.	W. T. Eddy.
Carlyle	Clinton	470	26								8.79	+ 5.17	1.70	0	13					J. E. Rogan.
Chester	Randolph	380	5								7.00		1.75	0	14					F. A. Gollon.
Clinton	Dewitt	727	1	68.7	.....	92	2	45	30	30	10.91	.....	3.51	0	16	11	10	9	sw.	J. Frank Ziegler.
Coatsburg	Adams	763	19	69.8	+ 2.1	93	2	50	19	32	10.79	+ 6.08	2.25	0	15	10	3	17	se.	Dr. J. R. Lambert.
Cobden	Union	656	28	76.2	+ 5.1	96	12†	51	22	32	6.13	+ 2.74	1.73	0	11	10	11	9	s.	John Buck.
Dakota	Stephenson	929	6	64.0	.....	88	1	38	30	34	5.78	.....	3.00	0	12	2	19	9	se.	Rev. G. W. Kerstetter.
Decatur	Macon	685	20	69.0	+ 1.0	92	2†	47	30	39	12.00	+ 8.30	2.38	0	15	12	9	9	sw.	Prof. J. H. Coonradt.
Dixon	Lee	725	21	65.0	+ 0.4	90	1†	40	30	35	6.77	+ 3.25	1.25	0	13	9	18	3	.....	H. U. Bardwell.
Duquoin	Perry	459	23	76.0	+ 4.7	97	12	50	22	38	10.26	+ 7.38	1.63	0	12	12	15	3	sw.	G. H. Knetzger.
Dwight	Livingston	600	18	67.8	+ 3.0	96	1†	41	30	40	6.67	+ 3.63	0.92	0	16	6	6	18	se.	Edward O. Welch.
East St. Louis	St. Clair	418									7.16		3.27	0	11					W. McK. Brown.
Edwardsville	Madison	554	12								10.71	+ 6.62	2.10	0	13					W. H. Morgan.
Elgin	Kane	716	4	66.0	.....	91	1	43	30	36	5.66		1.87	0	15	5	17	8	ne.	Elgin Observatory.
Galva	Henry	842	19	66.8	+ 1.3	96	1	42	30	41	8.29	+ 4.65	1.58	0	14	9	4	17	sw.	Prof. F. U. White.
Grafton	Jersey	422	18								5.49	+ 1.96	2.30	0	8					R. C. Goodrich.
Greenville	Bond	635	33	72.4	+ 3.4	92	2†	53	20	29	11.66	+ 8.04	2.08	0	14	10	4	16	sw.	M. S. Oudyn.
Griggsville	Pike	650	26	70.4	+ 2.3	94	2	52[a]	30	30[a]	13.77	+ 9.51	3.15	0	13	11	10	9	se.	George F. Kneeland.
Havana	Mason	475	19	71.7[b]	+ 2.5	97	2†	49[d]	30	28[d]	13.14	+ 8.79	2.83	0	14	7	21	2	s.	F. & C. Borgelt.
Henry	Marshall	500	23	68.2	+ 2.8	94	2	43	30	31	7.19	+ 3.80	1.29	0	16	6	14	10	ne.	Dr. F. A. Powell.
Hillsboro	Montgomery	675	17	71.6	+ 2.1	94	14	50	1†	42	7.46	+ 3.74	2.40	0	11	14	2	14	s.	Ira L. Woodward.
Joliet	Will	541	20	64.9	+ 0.3	89	1†	45	22†	36	12.27	+ 8.30	4.20	0	18	6	10	14	sw.	F. M. Muhlig.
Kishwaukee	Winnebago	730	23	64.8	+ 1.3	90	1	39	30	37	5.48	+ 2.36	2.33	0	14	12	9	9	se.	George Stevens.
La Grange	Cook	657	19	65.2	+ 1.1	92	1	43	26	35	3.64	− 0.16	1.85	0	9	10	12	8	n.	Prof. F. E. Sanford.
La Harpe	Hancock	698	32	69.2	+ 2.9	96	1	48	20†	40	11.84	+ 7.56	3.30	0	13	12	12	6	se.	George E. Campbell.
Lanark	Carroll	883	22	64.3	+ 1.6	91	1	36	30	40	6.89	+ 3.45	1.67	0	14	14	8	8	se.	M. N. Wertz.
La Salle	Lasalle	536	33	67.2	+ 3.3	92	1	43	30	32	7.42	+ 4.22	1.90	0	19	7	11	12	e.	U. S. Weather Bureau.
Lincoln	Logan	482	23	68.7	+ 1.4	91	2	46	22†	34	14.31	+10.40	3.47	0	16	10	15	5	s.	Prof. C. S. Oglevee.
Losami	Sangamon	624	11								15.89	+11.66	5.35	0	15	10	0	20	w.	H. C. Foster.
Manteno	Kankakee	711									8.66		2.75	0	15	18	7	5	sw.	J. F. Schmeltzer.
Martinton	Iroquois	633	24	67.1	+ 2.2	97	1†	44	30	47	9.40	+ 5.76	2.90	0	15	11	7	12	se.	Joseph H. Peltier.
Mascoutah	St. Clair	425	21	75.7	+ 5.5	99	2†	49	20†	41	5.85	+ 2.08	1.85	0	12	15	10	5	se.	George Henrich.
Minonk	Woodford	745	18	69.2	+ 2.9	99	2	40	30	40	10.13	+ 6.09	4.64	0	19	9	4	17	se.	M. H. Pfaffle.
Monmouth	Warren	784	19	67.8	+ 1.7	95	1†	44	30	40	20.03	+15.07	4.48	0	16	11	4	15	se.	Dr. J. C. Hutchison.
Morrison	Whiteside	685	17	65.0	+ 0.6	90	1	41	30	38	5.57	+ 1.94	1.02	0	18	8	14	8	nw.	S. A. Maxwell.
Morrisonville	Christian	638	12	70.4	+ 2.3	92	14	47	22†	32	8.99	+ 5.52	2.16	0	13	14	8	8	se.	J. D. Lowis.
Mount Vernon	Jefferson	511	17	73.7	+ 3.2	95	14	53	20†	33	7.51	+ 3.85	2.59	0	11	10	7	13	sw.	Theodore P. Stelle.
Oregon	Ogle	702	2	65.9	.....	90	14	38	30	33	7.57	.....	3.00	0	12	8	7	15	s.	Samuel Ray.
Ottawa	Lasalle	500	25	67.2	+ 1.9	90	1†	43	30	33	6.88	+ 3.31	1.70	0	13	10	8	12	sw.	Miss Maude M. Harris.
Pana	Christian	692	25	70.6	+ 2.8	90	14	52	20†	26	10.87	+ 7.14	2.86	0	16	10	9	11	nw.	C. W. Sibley.
Peoria	Peoria	609	33	67.8	+ 3.5	95	2	44	30	39	12.30	+ 9.18	3.37	0	20	5	11	14	s.	U. S. Weather Bureau.
Pontiac	Livingston	546	9	69.2	.....	95	2	44	30	34	11.81	.....	3.95	0	18	9	11	10	sw.	George Butterworth.
Quincy	Adams	481	.....	72.6	.....	95	13	53	19	33	15.71	.....	5.66	0	16					Fred J. Brinkoetter.
Riley	McHenry	955	52	64.3	+ 2.6	89	1	42	30	33	4.40	+ 0.67	1.65	0	14	7	12	11	sw.	John West James.
Roberts	Ford	774									7.77		1.76	0	17	10	12	8	sw.	R. E. Bradbury.
Rockford	Winnebago	763	19	63.4	0.0	87	1	40	30	33	6.56	+ 3.55	1.81	0	11	15	0	15	.....	Hosmer C. Porter.
Rushville	Schuyler	670	20	69.6	+ 2.8	93	1	51	20†	29	14.65	+10.23	4.77	0	14	3	2	25	s.	H. F. Dyson.
St. Charles	Kane	700	16	65.2	+ 1.0	93	1	41	30	41	6.91	+ 2.19	2.75	0	15	6	18	6	ne.	Dr. William H. Bishop
St. Peter	Fayette	500	9	73.2	+ 3.7	97	2	51	23	36	9.50	+ 5.92	1.95	0	12	9	13	8	sw.	M. L. Lansford.
Sparta	Randolph	538	25	75.2	+ 5.4	95	14	50	21†	32	6.74	+ 3.30	1.69	0	12	15	14	1	e.	James A. Caldwell.
Springfield	Sangamon	644	33	70.0	+ 3.6	92	14	51	30	27	10.68	+ 7.31	2.64	0	19	9	6	15	se.	Section Center.
Streator	Lasalle	626	18	67.0	+ 0.6	95	1	42	30	42	6.77	+ 3.17	1.35	0	17	14	1	15	sw.	Miss Lora Sweetser.
Sullivan	Moultrie	530	11	70.8	+ 2.5	94	2	49	22†	33	13.23	+ 9.38	3.67	0	14	8	14	8	sw.	C. A. Corbin.
Sycamore	Dekalb	855	31	64.5	+ 1.8	97[a]	1	38	30	46[a]	6.16	+ 2.68	1.74	0	12	10	5	15	nw.	Miss Edna J. Davis.
Tiskilwa	Bureau	798	27								6.27	+ 1.79	1.20	0	13					F. I. Smucker.
Walnut	....do	717	20	66.9	+ 0.2	92	1	42	30	31	7.80	+ 3.68	1.44	0	16	6	16	8	e.	O. C. Nussle.
Warsaw	Hancock	501	13								7.57	+ 4.16	2.18	0	11					W. R. Kirkbride.
White Hall	Greene	573	3	70.6	.....	94	14	47	22	32	8.13	+ 4.67	1.27	0	15	10	5	15	s.	Dr. R. A. Pritchett.
Windsor	Shelby	681	12	72.2	+ 4.5	94	2	45	22	35	14.76	+10.62	3.52	0	14	10	9	11	nw.	Herbert Rose.
Winnebago	Winnebago	900	24	64.6	+ 1.2	93	1	39	30	39	7.57	+ 3.98	2.80	0	12	14	8	8	sw.	Frank Osborn.
Yorkville	Kendall	584	24	66.0[a]	+ 2.7	92	1	41[a]	30	35[a]	10.16	+ 6.32	4.00	0	16	11	9	10	w.	Herman A. Grimwood.
Zion	Carroll	938	17	63.4	+ 0.1	90	14	38	30	36	4.26	+ 0.97	1.64	0	7	19	9	2	w.	Robert F. Gillogly.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1911. District No. 5, North Dakota.*

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
North Dakota.																																
Amenia	Red	.08	.12		.30	.70	.45	.96	T.					T.	T.			.10	T.						T.	T.			.10	T.		2.81
Ashley	Missouri																															
Bottineau	Mouse	.02			.04	.70	.06	.04							.57				.02					.02		.36		.03	.52	.32		2.70
Cando	Sheyenne	.36			.16				.11	.60				.02					.18							.08			.47		.02	2.00
Crosby	Mouse				.97	.48	T.							.27			.11	T.		.09		T.	*	.38				.26				2.56
Devils Lake	Sheyenne	T.			.55	.12	.16	T.	.12	.51			.14	T.				.29	T.					.01		.08			.20		.04	2.22
Donnybrook	Mouse			.06	.98		.49	.04						T.	.32			.04	T.					T.	.57				.73			3.23
Dunseith	do																															
Edmore	Sheyenne				.45	.58			.12	.13			.13						.15	.05	T.									.20		1.81
Fessenden	James																															
Forman	Sheyenne				1.10		1.05			T.					.25			.05										.75		.25	3.45
Grafton	Red	.11				.03		.01	.08	.29				.80	.02			.01	.25			.03				.10			.17	.16		2.06
Granville	Mouse				.47	1.34	.45		.09						.30			.06								.19						2.90
Hannah	Pembina			.02						.09		.14	.61		T.			.11			T.					.11	.21		.76			2.05
Hansboro	Red			.06		.20					.35		.15		.14			.16	.03							.40			.65			2.14
Hillsboro	do	.09			.52	.19	.51		T.									T.											.37			1.68
Lakota	Sheyenne	T.			.75	.38	.20		.12	.30			.30		.03			.30	.03		.02					.06			.10		.02	2.61
Langdon	Pembina	.07			T.	.69			.06	.05		.07		.06	.03	T.			.19							.11			.21	.56		2.10
Larimore	Red																															
Lisbon	Sheyenne	.15			.65	.75	.70	.54						.15	.47			.03	.02		T.	.06			.12	.71	T.		.90			3.79
McKinney	Mouse	.17		.10	*	.90	.31	T.	T.						.42				T.	T.	T.								.27			3.63
Manfred	Sheyenne	T.			.53	.77	.54	.03	.18						.04			.03	.19		.04					.15			.35	.07		2.92
Mayville	Red	.12					.90							.19				.10									.40		.90			2.61
Minot	Mouse				.05	.80	.19	.41	.01						.20				.05					.04	T.	.20			.25	.08		2.28
Minto	Red				.10		.07		.08	.39			.46		.08			.30			.02					.08			.30		.08	1.96
Oriska	Sheyenne																															
Park River	Red	.08			.14		.15			.25			.47		.06			.48	.02		.08								.45		.04	2.22
Pembina	do											T.		.01	T.	.10			.40	T.	T.	T.				T.		.04	T.	.34	T.	0.89
Power	Sheyenne	.25			1.76		.91						.12		.27			.25			.16						.05		.13			3.90
Pratt	Mouse																															
Towner	do			T.	.60	.62	.23	T.	.13					T.	.05			T.				.28										1.91
University	Red	.03			.24	.03	.21	.01	.04				.33	.01	.04			.11			.03					.04	.02		.08			1.22
Wahpeton	do	.06			.37	.50	.47	.42												.04		.25							.48	.02		2.61
Walhalla	Pembina	.39	T.	T.	T.	.16	T.		.01	.02	T.	.12	.13	T.	.19			.08	.03		.02						.01		.52		.05	1.73
Westhope	Mouse	T.		.07	.18	.57	.06								.16			T.								.73			.91			2.68
Willow City	do			.22	.32	.61	.11							.34				.17	.05							.16	T.		.52			2.50
Minnesota.																																
Albert Lea	Mississippi				1.65		.40	.05		.20		T.									.20			.30			T.		.70		.40	3.90
Alexandria ‖	do	.06	T.		.17	.45	.25	.82	.02	T.				.40	1.20				T.			.22		.02	T.	T.			.04	.20		3.85
Angus	Red	.06			.17		.08			.14			.47		.05			.16			.06					.04			.23			1.46
Bagley	do	.30			1.00		.70						.20					.28	.05		.16						.06		.35			3.10
Beardsley	Minnesota																															
Beaulieu	Red	.15			.16	.55	.40	.15							.25			.10								.10			.40			2.26
Bemidji	Mississippi	.07	.09			1.18		.58							.21	.42	.01					.09		.16				.03	.39			3.23
Bird Island	Minnesota	.01			.68	.24	.73	.02	.03										T.		.14	.19				.02	.30		.31		.23	2.90
Caledonia ‖	Mississippi		.12			.52		.15							.11					.90		.23			.16	.01		.15		.31		2.66
Campbell ‖	Red	.06			.36	.20	.42	.43	.02					.06	.80				T.		T.									.40	.10		2.85
Cass Lake ‖	Mississippi	T.					T.												1.50		T.					.25						1.75
Collegeville	do	.04			.18	.02	.78	.14	.07				.41		.09	.18			T.			.11					T.		.83		.10	2.95
Crookston ‖	Red	T.				.55		.24	.03						.18	T.	T.		.02		T.							.08	.08	.05		1.23
Detroit ‖	do	T.	T.	T.	T.	.80	T.	.65	T.					.20	.27	T.		T.	T.			.15		T.				T.	T.	.40	T.	2.47
Ely	Rainy	.08			.18	1.00	.15		.30	.57			T.		.02				.02			.26		.16	.06	T.	.09	.01	.43	.10		3.43
Fairmont (near)	Minnesota				.64		.22	.12		1.05	.06							1.04			*	.25		.18	T.	.09	T.		.06		1.10	4.81
Faribault	Mississippi																															
Farmington	do				1.24		.83	T.					.71		.02	T.		T.	.15		T.	.42		.32			.02		.52		.32	4.55
Fergus Falls	Red	.12			.34		1.09	T.					.42		1.01			.02			.10	.18					.01		.53		.09	3.91
Fort Ripley ‖	Mississippi		.10		T.	.22		.66	T.	T.	T.		.10	T.	1.80				T.			.25							.40			3.53
Fosston	Red	.07			.70		.42		.05				.21		.07			17			.07				.03	.01			.33			2.13
Fram	do	.02			T.				.10	.50		.07	.20		.15			.26	.11	.02	.02	T.				T.			.32	.12	.03	1.92
Glencoe	Mississippi				.75		.50															.35					.50		.30			2.40
Grand Meadow	do		.04		.17	.31	.77	.07	T.	T.	T.		T.	.24	T.			.99	.42		.14	.27		.24	.04	.03	.04	.03	.31	T.	.47	4.58
Gull Lake Dam	do	.14			.12		.63	T.	.02		.02				.84				.07			.18		.01	T.		T.		.25	T.	.04	2.32
Hallock	Red	.25								.01		.12	.25		.10			.80	.10		T.					.05			.50	T.	.07	2.25
Halstad ‖	do	.20			.09	.75	.10	.50	.02					.10	.02			.03	.06						.08	T.			.08	.02		2.05
Hinckley	St. Croix	.10			.84	1.57	.22	.10					.36		2.40														.62			6.21
International Falls	Rainy	T.							T.	.20				T.	.05				T.			T.		.10			T.		.58	.07	T.	1.00
Itasca State Park	Mississippi	.14			.80	.04	.63	.13	.02				.03	.04	.14				.70			.08		.25					.46			3.46
Lake Crystal	Minnesota				1.82	.06	.46	.07										1.26				.25		.06		.05	.06		.08		T.	4.17
Leech Lake Dam	Mississippi	.26			.39	.31	.41	.12						.09	.19				.06		.04	.06		.04			.09		.46	.04	.05	2.61
Littlefork	Rainy		.03			.16			.05						.11									.22			.10		.58	.08		1.33
Long Prairie	Mississippi				T.	.50	1.20		T.				T.	.12	1.65											T.		T.	.25	.20	3.02
Lynd	Minnesota	T.			.75			10	.06	T.								.05			.24	.05		T.		.13	T.		T.		.60	1.98
Mankato ‖	do				.43	1.10		.38											.78			.25				.15		.17		.10		3.36
Milaca	Mississippi	.04			1.41	.27	.55	.09					.09		.05		1.15		.03		T.	.27						.08		.68			4.71
Milan	Minnesota	.02			.86		1.16	T.								T.		T.			.02				T.		T.		.80		.21	3.07
Minneapolis	Mississippi				2.08		.61	T.	.02			1.26	.01		.16			.41			.33	T.		T.		.01	.12		.58		.24	5.83
Montevideo ‖	Minnesota		T.		.65	.10	.41	.79	T.	.02	T.									.08		.20			.01	.04		.07		.60		2.97
Moorhead	Red	.06			.60		.98						.06		.10			.03			.02				.03				.24		.03	2.15
Mora	St. Croix	.06			.57	1.43	.35	.06	.06		.02	.15		.01	1.40				.02			.18					.03		.66		.06	5.06
Morris	Minnesota				.47		1.02					.70	.02		.10			T.			.35		T.	T.				T.	.35		.46	3.47
New London	Mississippi	.02	.07	.13	.22	.37	.20	.16				1.15			.08						.20			.22	T.		.16		.12		.61	3.55
New Richland	Minnesota				.45		.38	.07			.09		.04		T.			.46						.22	T.				.93		.22	2.80
New Ulm ‖	do				1.15	.36	T.	.48	T.	.03								T.	.10		.20			.04	.05	.08		.22		.45		3.10
Osakis	Mississippi	.04			.15	.15	.88	.02	.01				.20	.12	.50						.02	.14		T.			T.		.45		.33	3.01
Park Rapids ‖	do	.10	.30			.94	.01	.50	.01					.13	.25	T.			.11	.05	.01	.14	.01	.02	.01		T.	.17		.52		3.28
Pine River Dam	do	.15			.15	.08	.40	.10	.07						.71				T.		.20					.08			.85		.10	2.89
Pokegama Falls	do	.22			.36	1.27	.53	.07	.04				T.	T.	.32			1.00	T.		.06	.21	T.	T.			.14	.02	.38	.04	.06	4.72
Red Lake	Red					1.02	.18						.30		T.			.24	.23			.12			T.		.14		.41		.03	2.67
Red Wing ‖	Mississippi				T.	1.12		.54	.02		.04	.78	.50	.04	T.				.10			.16			.28			.10		.46		4.14
Redwood Falls	Minnesota				.80	.03	.70	.04	.02												.23	.13				.03	.25		.13		.26	2.62
Reeds Landing ‖	Mississippi					.55		.57				.64	.30		.10				1.52			.25			.60			.08		.22		4.83
Rochester ‖	do		T.			.22		.35	T.						.06				.74			.36			.60	T.		.09		.32		2.74
Roseau	do									.12					.25																	1.47
St. Charles	Mississippi		.09			.25	.40	.07	.03						.05			.45			.15								.43		.07	
St. Cloud	do	.05			.09	.02	.72	.02	.06			.66	.02	.14	.25				.30			.40		.30					.62		.16	2.67
St. Paul	do	T.			1.10	T.	.54	T.	.04			1.27	T.		.05			.16	T.			.17					.01		1.02		.18	3.41
St. Peter	Minnesota				1.30		.30												1.25		.26	.02	T.	.09			.01	.16		1.26		.31	5.27
Sandstone	St. Croix																					.25		.10			.21	.22			.26	3.89
Sandy Lake Dam	Mississippi	.18			.42	.53	.33							.12	.64				.47			.20							.22	.16			2.37

TABLE 2.—*Daily precipitation for September, 1911. District No. 5*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Minnesota—Con.																																
State Sanatorium	Mississippi	.10			.40	.25	.63	.10	.02					.06	.26				.07		.05	.06		.06			.10	.01	.61	.04	.08	2.90
Stillwater ‖	St. Croix		T.		.14	1.12		.32	.04			.56	.04	.05					.04						.20		.02	.09		1.15		3.97
Taylors Falls	do	T.			1.50	.15	.07	T.	.02			1.32			.40			.95			.15		T.			.20		.80		T.	5.56
Tracy	Minnesota																															
Warroad	Rainy								.10	.10				.15	.25			.55	.12		.15	.05				.04	.13		.37		.09	2.10
West Concord	Mississippi																															
Winnebago ‖	Minnesota				.10	.40		.25	T.		.02			T.		T.			1.93			.22		.05	.05	.03	T.	.06		.12		3.23
Winnibigoshish	Mississippi	.15			.14	.50	.47	.08					.01	.12	.14						.01	.12		.07	.06		T.	.02	.39	.02	T.	2.30
Winona	do		.41			.11	.24	.04	.01			.32			.02				.28			.32		.30	.01	.03	T.	.09	.60		.12	2.90
Worthington ‖	Des Moines				1.42	.04		.37			2.92								.34			.19				.16		.02		.03		5.49
Zumbrota	Mississippi				.30	.49	T.	.08	.15										1.10		T.	.37	.18			.12			.10		.30	3.19
South Dakota.																																
Milbank ‖	Minnesota	.03			.52	.24	.92	.66	T.						.02				T.			.31				.04			.04	.41		3.19
Wisconsin.																																
Antigo	Wisconsin		.28			.26	T.	.55			T.	.23		T.	1.85	T.			.72			.51		T.	.24				1.10	.17	.10	6.01
Barron	Chippewa				.83	1.38	.06	.22			T.	.40			1.48			.17				.26		.10		.03		1.74		.08	6.75
Beloit	Rock				.13		.25				.15	.10			1.21							1.40			.42	.20		.22		2.62	6.70
Big St. Germain Dam.	Wisconsin	.05			.12	.41	T.	.21	T.			.02		T.	.76							.27	T.	.32	.22	.03		.16	.56	.12	.06	3.31
Brodhead	Rock					.10		.28			.03	.05	.15		1.43				1.10			.62			.24			.26	.19		.06	4.71
Burnett	do		T.				T.	.05	T.		.79	.66		.08	.25				.72			.59			T.	.03		1.46	.54	.02	T.	5.19
Cottage Grove	do					T.	.03	.30			1.14	.08		.03					.98			.68			.02	.07		1.01	.06	.07	.01	4.48
Darlington	do							.25			.20		.80	.20	2.30				1.40			.60			T.			.10		.10	.10	6.05
Deerskin Dam	Wisconsin	T.	T.		.06	.24	.03	.18	T.			.55			.60				T.					.13	.16			.25	.23	.35	T.	2.78
Delavan	Rock				T.		.10	T.			.85	.12	.07	.75				1.70			.70			.26	.15	T.	1.03		.20		2.85	8.78
Dodgeville	do																															
Downing	Chippewa				1.20	.92	.12	T.			T.	.94	.62	.22	.32			T.						.20	T.	T.			1.60		.40	6.54
Eau Claire	do				.07	1.60	.43	.24				1.19	.06	.11	.15				.11			.26		.19	.02	.02	T.	.30	1.39		.08	6.22
Grand Rapids ‖	Wisconsin					.16		.56	.05		.01		.07	.16	.51	.79			1.79			.38			.11	.07		.07		1.71		7.04
Grantsburg	St. Croix	T.			.75		T.	.22	T.			.10			1.55									T.		T.			.70		.08	3.40
Hancock	Wisconsin					.02	.13	.11	.03			.80		.10	1.10				1.75			.47			.10	T.		.05	.80	.35	T.	5.81
Hatfield	Black					1.02	.15	.37	.02			.56		.03	.85			.59			.45			.83			.04		1.32		.56	6.79
Hayward	St. Croix	.04			1.85	.40	.10	.20				T.		*	.75			.65						.40			.12		.80	.07	.05	5.43
Hillsboro	Wisconsin		.35			T.	.31	.41	T.		T.	.12	T.		1.79			.55				.50		T.	T.			.75	.37		1.50	6.65
Koepenick	do				.20	.60	.20	.30	.10			.40		.10	.80	.10			.60			.80			.60			.30	.80			5.90
Lac du Flambeau	Chippewa	T.			.80	.05	.25					T.	.10	.04	.85									.25		.25			1.02			3.61
La Crosse	Mississippi	.07	.11		.20	.47	.36	.01	.01			.22	.02	T.	.21			1.31	T.		.23	.03		.13	.01		.14		.41		1.06	5.00
Lake Mills	Rock					.18	.28	.02		T.	1.56	.02	T.	.06	.28				1.12		T.	.62			.13	T.		1.54	.08	.11	.07	6.07
Lancaster	Mississippi						.59	.02					.41	.26				1.05			.54			.01				.10	.23		.22	3.43
Long Lake	Wisconsin	.01			.02	.17		.31				.27		.03	.59	.01			.02					.22	.28			.19	.44	.14	.04	2.74
Madison	Rock				T.	T.	.30	.01	T.		.84	.55		.01	.39			1.39	.13		.20	.32			T.	T.		.12	.13		.34	5.85
Mather ‖	Wisconsin					.35		.38	.04				.51	.04	.69	.09			2.04			.47			.15	.02		.02		1.52		6.32
Mauston	do		.50			.10	.25	.28			.10	.85		.05	1.15				.60			.60						.95			.15	5.58
Meadow Valley	do				.20		.15	.13	.01			.50		.10	.60	.03			1.63				.61	.06	.19				1.13	.71	.02	6.07
Medford	Black					.95		.30				.58			1.85				.25			.33		.35	.30	.38		.78	1.25			7.32
Merrill	Wisconsin					.64		.40				.42			2.53				.55			.60		.15	.30			.40	1.00	.25		7.24
Minocqua	do				.03	.50	.02	.34				.03			.70							.33		.70	.06			.12	.56	.08	.08	3.51
Mondovi	Mississippi					.85	.22	.22	T.			.42	T.	.02	.15				.73	T.		.35		.33	.01	.04	.02	.04	1.00	.01	.05	4.46
Mount Horeb	Rock					T.	.40			T.	.15	.33		T.	1.15				.70		.20	.40			T.	T.		.65	.12	.08	.40	4.58
Muscoda ‖	Wisconsin							.21					.40	.05	2.58				.75			.63						.27		.06		4.95
Neillsville	Black					1.25		.75				.40	.35	.22	.85				1.02			.51		.36				2.40				8.11
New Richmond	St. Croix				.64	.48	.31	.07	.04			.14	.10	.15	T.							.27		.30	.28	T.	.12		1.27		.14	4.31
Osceola ‖	do				2.57	T.	.16	.02	T.		.10	.35	.16		.90			.41			.20			.05		.20		1.58		.31	7.01
Park Falls	Chippewa		T.		.15	.92			.01			.03		.01	.73				.93			.09		.21	.05			.09	.53	.18		3.90
Portage	Wisconsin		.10			.02	.09	.07	.02		.39	.29		.03	1.13				1.12			.76			T.	T.		.81	.08	.54	.05	5.50
Port Edwards	do					.14	.05	.23				.65			.20	.76			2.45			.34		.05	.06				1.06	.44		6.43
Prairie du Chien ‖	Mississippi							.44						.20	.42				1.14			.50			T.			.08		T.		2.78
Prairie du Sac	Wisconsin																		.87			.70			T.	T.		.84	.12		T.	
Prentice	Chippewa	T.			.23	.27		.21	T.			.23			1.85			T.			.35						.21	.82	.09	.21	4.47
Rhinelander	Wisconsin	.01				.53	.01	.52				.63	.02		.76				.06			.51		.09	.28			.14	.63	.21	.05	4.45
Shullsburg	Mississippi						.30				.15	.51			1.51			.04	1.14		.03	.54			T.			.15	.19		.18	4.74
Solon Springs	St. Croix	T.			.75	1.00		.50							.70									T.		T.			T.			2.95
Spooner	do																															
Stanley	Chippewa	T.				1.58	.11	.47	T.			.63		T.	.76				.16			.55		.20	.07	.03		.48	1.00		T.	6.04
Stevens Point	Wisconsin					*		*	.60			1.17			.83				*			.48							*	2.14		5.22
Sugar Camp Dam	do	.02			.04	.30		.38				.06		.02	.60				.04	.03		.14		.30				.14	.58	.16	.22	3.03
Twin Lakes Dam	do				.12	.30									1.00							.05		.10					.80		2.37
Valley Junction	do		.17			.31	.81	.67	.07		.17	1.28			1.48				1.26			.45			T.			1.30			.29	8.26
Viroqua	Mississippi		.03			.04	.28	.04	T.			.60		.02	.35			.02	1.05		T.	.49			.09	.01		1.43	.21	.02	.15	4.83
Vudesare	Wisconsin					.20	T.	T.				.50			.75									T.	.20				.82	.12		2.59
Watertown ‖	Rock					.05		.10				.85		.08	.50	.40			2.00			.50	.05			.18		.55		.50		5.76
Waukesha	Fox						.12				1.42			.02	.46				1.08			.63						.03	.42			4.78
Wausau	Wisconsin					.36		.56	T.			.50		.10	1.65				.64			.78			.68	T.		.34	.77	.10		6.48
Weyerhaeuser	Chippewa	T.			.25	2.15	.04	.15		.14	.02	.88	.02		1.31			T.	.02			.25		.12		.22			1.14		.33	7.04
Whiteball	Mississippi					1.10	.30	.20				.30			.70				1.30			.30		1.10	T.		T.		T.		T.	5.30
Iowa.																																
Albia ‖	Des Moines			.05				.78	.13	.01	.80	1.10			.10	.36		.14	.20			.36			.26	1.08	T.		4.31	.53		10.21
Algona	do				.23		.66				1.43							.85	T.		.26			.10					.13		.92	4.58
Alta ‖	Raccoon					.11		.72			2.85		.65						.06			.32		T.	.03			T.				4.74
Amana	Iowa				T.		.77	.02	.01		.74		T.	1.75	.05			.20	.01		T.	.55			.26			.06	1.71	.03	.62	6.78
Ames	Skunk		T.		1.75	.31	.21	.02	T.	T.	2.00			.78				T.	.02		.18	.09			T.			.06	.44		1.32	7.18
Baxter	do		T.		T.	.01	.60				1.68		T.	.34					.17		.07	.38			.05			.01	.84		1.46	5.61
Belle Plaine	Iowa				.23		.26		.02		.73			2.10	.15				.28		.45				.10			.03	1.35	.01	.21	5.92
Belmond	do				.57		.78	.04	T.	T.	.76		T.	T.	T.			T.			.05	.31		.02		.02			.11		1.20	3.86
Bloomfield	Mississippi			.05	.03	.02	.82	1.19	.06	.01	.13			.78	.11	.84		.65			.13	.35			1.55	.18		.05	1.00	.72	.26	13.73
Bonaparte	Des Moines			T.	.06	.10	2.00	1.52	.19			.10		.10	.19	.49			.08		.10	.44			.79	1.82			2.75	1.35	.47	12.55
Boone ‖	do					1.52		.17	.02	T.	1.96			.06	T.				.06			.24			.07		.05	.19	.08			4.42
Britt	Iowa				.07				.02		1.35								.89		.26	.12		.03			.02	.11		1.07	4.54
Buckingham	Cedar				.06		.51				.99			.73				.60			.38			.08	T.	T.			.30		3.24	6.89
Burlington ‖	Mississippi					.13		3.25	.11			.55		.96	.06	.20					.20	.51			.96	3.00			1.10	2.14			13.17
Carroll ‖	Raccoon		.03			.09		.29			.40			T.								.45				.11		.05	.85	.02		2.29
Cedar Rapids ‖	Cedar						.60	T.	T.	.58	T.		1.00	.05	T.		T.	.50				.46			.16	T.		T.	T.	1.30		4.65
Charles City	do					.01	.61	.01		.03	.01						1.50				.22	.02			.01			.09	.02		1.58	4.11
Clear Lake	do				.20		.61												1.25			.27									1.10	4.43
Clinton	Mississippi				.27		1.30				.58	.16	.15		.17			.12	.34			.72		.10	T.			.12	.20	.35	.70	5.25
Columbus Junction	Iowa			T.	T.		.95	.10	.05		.12			2.00	.05	.12		.15			.18	.55			1.33				.90	.75	.15	7.40

TABLE 2.—*Daily precipitation for September, 1911. District No. 5*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
***Iowa*—Continued.**																																
Davenport	Mississippi			T.	.05		.80	T.	T.		1.12	T.	.09	.41	.28			.01			.48	.15			.14	.01		.08	1.49		.02	5.13
Decorah	do				T.		.55						T.	.28				T.	1.06		T.	.26		T.	T.			.12	.03		.68	2.98
Delaware	do					T.	.62	.03		.10									.63		.67	.42			.08				.08		.20	2.83
Des Moines	Des Moines			T.	T.	.01	2.22	T.	T.	T.	1.58		T.	.08	T.			.08	T.		.33				.05	T.	.01	.95	.18		2.19	7.68
Dubuque	Mississippi				.01		.33	T.			.02		.07	T.	T.			.82	.13		.52	.05		.02	.01			.02	.11		1.45	3.56
Earlham	Raccoon			.10			.50				.72								T.		.25	.07			.07				1.31		.48	3.50
Elkader	Mississippi				.28	.45					.10			.22					1.80		.52			.10	T.			.07	.10		1.40	5.04
Elma	Wapsipinicon		T.		.23	.12	.25		.03				.01	.08	.03			T.	1.28		.01	.17		T.	T.	T.		.05	.15		.75	3.16
Estherville ‖	Des Moines				.10	.25		.30	T.		2.75							T.	.25			.26		.10	.23			.10		.12		4.46
Fairfield	Skunk				T.	.07	.88		.20		.22			.16	T.	.20	.01	.04			.17	.42	.01		2.50	.04		.05	1.14	1.08	.18	7.27
Fayette	Mississippi				.03	.12	.65	.02	.03		.32		.03		T.			2.40				.44		.06	T.			T.	.12		.75	4.97
Forest City ‖	Cedar					.44		.41		.83									1.37			.31			T.			.50		.17	.80	4.83
Fort Dodge ‖	Des Moines					T.		.80			2.15			4.50	T.			.05				.45		T.				T.	.34	.09		8.38
Fort Madison	Mississippi				T.	T.		4.50	.11		.15	T.		.45	.35	T.	T.	.22	.43		.55				3.35	T.		T.	3.10		T.	13.21
Gilman	Iowa					.07	.20				.90			2.21				T.	.30		T.	.41			.05				.06	.30	.39	4.89
Grand Meadow	Mississippi					.19	.40						.30					T.	1.85		.05	.33			.05	T.		.03	.01		.33	3.54
Grinnell	Iowa				1.10		.38		.04		1.37		T.	.91	.15			T.	.05		.06	.44		T.	.05		T.		2.13		.40	7.08
Grundy Center	Cedar				.12		.80				1.30			.51	.01				1.73		.02	.50							.10		.50	5.59
Guthrie Center	Raccoon				T.	T.					.15	.14		T.	.06				2.09		.55											
Hampton	Cedar						1.15			.53			.50					.65			.40			T.			.10	.05	.04		1.70	5.12
Humboldt	Des Moines				.36		.66				1.32										.08	.20		.05	T.			.05	.36		1.16	4.24
Independence	Wapsipinicon					.05	.70				.20			.12					.58		.10	.43		.11				.11		.12		2.52
Indianola	Des Moines		T.	.15	.03		1.86		.02		1.42			.26		T.					.20	T.		T.	.16			T.	2.26	T.	.58	6.94
Iowa City ‖	Iowa					.28	T.	.26			.61	.12		1.12	.06	.05						.73			.10	.11		.06	.35	1.22		5.07
Iowa Falls ‖	do					T.		.82	T.		.88			.25	T.	T.		T.	.85			.27				T.		T.	.08	.04		3.19
Jefferson	Raccoon				.06	.07	.15				.55											.29			.07				.03		.85	2.07
Keokuk	Mississippi				.15	.06	.95		.05		.06			.05	.15	.82		.28	.06		.26	.03			2.68	.02			.67	1.38		7.67
Keosauqua ‖	Des Moines			T.	.07	.15	.11	2.10	.10	.02	T.	.15			.04	1.10	T.	.13	.14	.04		.44			.02	2.36	T.	T.	1.60	1.68		10.25
Knoxville	do			.23	T.		1.50		T.		1.70		T.	.06	T.			T.	T.		.06	.40			.20			T.	1.72		.93	6.80
Lacona	do			.28	.12		.75		.01	.01	1.10			.30				T.	.03		.42				.18				2.20		.86	6.26
Le Claire ‖	Mississippi				T.	.11		.85	T.	T.	.11	.82	T.	.72	T.	.60			.30			.71			.28	.16	T.	.14	.31	1.05		6.16
Marshalltown ‖	Iowa					.58	T.	.50	.02	T.	1.50			2.27	.03				.36	.02		.48			.02	.04		.05	.22	.74		6.83
Mason City	Cedar				.12		.58				.45								1.05		.21							.02	.20		.90	3.53
Monroe	Des Moines				T.		3.83				.89			.11	T.						.42				T.		T.	1.23	1.51			7.99
Mount Pleasant	Skunk			T.	.05	.05	1.65	.34	.09		.02			.81		.71		T.			.15	.45			2.94	.86		.12	1.49	.62	.40	10.75
Muscatine ‖	Mississippi			T.	.02	.20		.87	T.	.02	T.	2.00		1.21	1.17	.35		.05				.74			.05	.34		.02	.64	.90		8.58
New Hampton	Wapsipinicon					.10	.58	T.	.04	T.			T.	.14					1.91		T.	.40		T.	T.			.12	.04		.52	3.85
Northwood	Cedar					.13	.33			.06	.10								.58		.08	.17		T.	T.		T.	T.			.72	2.17
Olin	Wapsipinicon						1.17				.80			.45	.08			.10		.05	.08				.20	.05			.17	.84	.20	4.19
Osage	Cedar				.60		.52				.19								1.49		.22			T.				.26	.09		.70	4.07
Oskaloosa	Des Moines		T.	T.	T.		1.17	.11		T.	.94		T.	.04	.06		.01				T.	.30		T.	.15			T.	2.33	T.	.70	5.81
Ottumwa	do			T.	.02		.77	T.	.18		.55		T.	.13	T.				.60		.13	.36		1.37	T.				1.99	.12		6.22
Pella	do			.23	T.		3.03	.02	T.		.70			.06	T.			.05	.04		T.	.18			.21			.01	1.76	.65		6.94
Perry	Raccoon				.66	.06	.70				.60			T.	T.						.10	.14			T.				.58		.95	3.19
Plover	Des Moines						.52				1.29		T.								.30			.08						1.30	3.49
Pocahontas	do						.81				1.12			.12							.18	.20		.18				.04	.34		1.61	4.60
Ridgeway	Mississippi		T.		.05	.26	.47	.04	.04	.04			.23		.09			1.13			.28			.05	.04	.01		.25	.02		1.54	4.54
Rockwell City	Raccoon				.10	.75					5.25			.80								.40		.30					.45	T.	1.15	9.20
Sac City	do					.17	.61	.02			2.80			.23	T.			T.			.15	.10			.06				.18		1.44	5.76
St. Charles	Des Moines			.12	.02		.46		.02		.65			.11							.20	.05				.02		1.30			.80	3.75
Sigourney	Skunk			.05	.01		2.00		.10		.40		T.	.50	.05						T.	.40			.40	.03	T.		1.30	1.67	.60	7.51
Stockport	do			.05	.03		1.23	1.26	.08		.05			.11	.03	.42		.03	T.		.15	.29			1.73	.67		.05	1.85	1.20	.31	9.54
Storm Lake	Raccoon				.03	.12	.52				2.35			.50				.22			.18	.20		.11	.01			.05			1.47	5.76
Tipton	Cedar				.75		2.25	.10			1.14			.90	.09	T.						.89				.08			.31	1.92	.28	8.71
Toledo	Iowa				1.43		.30	.05			1.52			2.13	T.				.95		T.				.10			T.	1.10	.05	.28	7.91
Wapello	do						.60	.80	T.	.30			1.78	.07	1.13		.12			.06	.05			5.29				1.06	1.80	.06		13.73
Washington	Skunk						1.14		.04		.08			1.22							.63				1.38	.12			2.35		.50	7.36
Waterloo ‖	Cedar					T.		1.00			.27			.25		T.			.45			.43				T.		T.	T.	.03		2.43
Waukee	Raccoon		T.			.20	1.59	T.	.03	T.	1.30			.27	T.				.25		.16	.14			.04	T.			.79		1.68	6.45
Waverley	Cedar						.70				.45								.20			.50							.23		1.48	3.56
Webster City	Des Moines				T.	T.	.50		T.		1.46			1.89					.09		T.	.45			T.		T.		.26		.41	5.03
West Bend	do				T.		.55				.70				T.			.30				.32		.02	T.				.03		1.25	3.17
Whitten	Iowa		T.		T.	T.	.05				2.40			2.42					.76			.22			.32				.39		1.00	7.56
Winterset	Des Moines			.09	.45		.78		.03		.31			.02					.07		.05	.33			.16	.02	T.	T.	1.79		.89	4.99
Missouri.																																
Gorin	Mississippi				.16		1.38		.28	.10				.25		1.40		.59	1.03		.31				.52	1.19		.58	3.42		.10	11.31
Hannibal	do			T.	.56	.02	1.29	.08	1.35		.35					1.15	T.	1.36	.33		.77	.02			.01	2.54		.37	1.28	.01	.15	11.64
Louisiana	do				.08	.18		1.28	T.	.02	.38					.72	.17	.80	.60			.20			.25	2.48	.32		.75	.15		8.38
Mexico ‖	do					.43		1.34		T.	.15	1.20				.10	1.60	1.22	.01	.01		.23				.28	1.26	.05			.01	7.89
Steffenville	do				.45	.15		1.30	.40	.03	.33					.42	.02	1.00	.20						.50	3.00		5.25		T.	.43	13.48
Sublett	do			T.	.05			3.00	.20	.30	T.				2.00		1.00	.50	T.	.25	.40				.65	.60	.75	.25	4.25	.75	T.	14.95
Vandalia	do			.30	.55			1.07								1.50		2.15								0.84					6.41
Warrenton ‖	do						.88		.17	.01	.02		.89					2.88	.97			.09				T.	1.25	.03			.05	7.24
Indiana.																																
Collegeville	Iroquois						28		.46				.12		.08		4.02	.28			1.37			.11			.07	.87		T.		.38		8.04
Knox	Kankakee						.07	.18	.37	T.			.03		.05	.07	1.17	1.17		T.	1.04			.45			.04	.70	.02	.31	T.	.44		6.11
Laporte	do						.67	.33	.10	T.					.05	.08		.85	.35		T.	.51		.30				.30		.14	.05	.30		4.03
Plymouth	do						.13	.23	.22	T.			.02		.05		.87	.75			1.04			.38			T.	.55	T.	.27	T.	.19		4.70
Illinois.																																
Aledo	Mississippi				.28	.01	.41	1.44	.08		1.15			2.20	.10	1.41		.02	.01		T.	.68			.24	3.51		.05	1.36	.79	T.	13.74
Alexander	Illinois				.14	.34		1.01	.86	.02	.10	.02		.35		.98	.24	.31	.18		T.	.16			.25	2.09	.01	T.	4.11	1.01	.04	12.22
Antioch	do					.15					.40		.20		.85	T.			1.82			.62			1.30				.82			6.16
Astoria	do				.20			1.71	.30		.02			.95		.60		.20	1.49		T.	.49			3.54	2.06		.15	1.46	1.05	T.	14.22
Aurora	do					.02		1.00			.13		.36		1.52	.15			2.84			.50			.30			.17	*	.24		7.23
Beardstown	do																															
Bement	Mississippi					.66		.77	.22	.02	.33	.02		2.11		.52	1.00	.02	.55			.13			.24	1.83	.42		1.16	.57	.01	10.58
Bloomington	Illinois					.33		1.66	.33		1.25	.02	.23	.93	.03	.59	.02	.24	.45			.67			.45	1.93	.01	.14	.71	.25	.01	10.25
Cairo	Mississippi				.11	1.45		1.07	.16	T.	.04	.03	1.26				.26	.20	.04			.45				.02				.06		5.15
Carbondale	do			T.	.05	2.16		.34		.19	.37	.02					.52	.23	.21	.12		.39				.63	.18			.29		5.70
Carlinville	Illinois				.34	.48		.12	1.19		.19			T.		.20	.51	1.23	T.		T.	.09				.79	.24		.38	.20	.02	5.98
Carlyle	Mississippi				1.25			1.40	.25		.37			.10			1.05	.50	.20			.40				1.70	1.15		.25	.17		8.79
Chester ‖	do				.16	1.75	.06	.58	.04	.08		.62	.10				.75	.70		.46		.52					1.10			.08		7.00
Clinton	Illinois					.25		1.38	.23		1.10		.25	1.00		.93	.16	.03	.56			.06			.46	3.05	.05		.98	.42	T.	10.91
Coatsburg	Mississippi				.40	.05	T.	1.82	.25	T.	.33			.02		.70		.52	.47		T.	.40			2.25	1.32			2.00	.10	.16	10.79
Cobden	do					1.73		.38	.17		.25	T.	.05				1.08	1.27	.24	.12		.32				.52	T.			T.		6.13
Dakota	do					.14	T.	.36			.07		.35	.23	3.00				.85		.02	.65			.07			.02	.05			5.78

TABLE 2.—*Daily precipitation for September, 1911. District No. 5*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Illinois—Continued.																															
Decatur ‖	Illinois				T.	.35		.94	.43		.48			2.38		.36	.58	.02	.72			.35			.22	2.15	.52	1.29	1.21		T.	12.00
Dixon ‖	Mississippi					T.		.90	.05			.68	1.20		1.25	.57		.03	.90			.58				.25	.09	.11		.16		6.77
Du Quoin	do			.68		1.53		1.59		.14	.07						.77	1.24	1.60			.36				1.63	.64			.01		10.26
Dwight	Illinois					.38		.92	.03		.72		.73	.03	.41	.38		.61	.17			.36			.14	.68		.41	.25	.45		6.67
East St. Louis ‖	Mississippi			3.27				.40		.05		.32		.15			.52	1.07	.02			.20				.01	1.15					7.16
Edwardsville	do			.75	2.10			1.25			.76						2.00	.41	.51		.08					1.10	1.55		.12	.04	.04	10.71
Elgin	Illinois					.21		.45	.01		.03	.01		.26	1.00	.81			1.87			.70			.04	.06		.07	.09	.05		5.66
Galva ‖	do					.16		1.47	.05			.90		1.04	.01	.81			.26			.61			.11	1.58	.04	T.	.59	.66		8.29
Grafton ‖	Mississippi				1.20			.92			.12						.20	.65				.08				T.	2.30				.02	5.49
Greenville	do			.03	1.60		1.20	1.15			.35					2.08	1.27	.46	.46		.10					1.45	.67		.60	.24		11.66
Griggsville	Illinois			.41	.65		1.85	2.00	T.	T.				T.	T.	1.82	.14	.73	.19			.36			.15	1.69	T.		3.15	.63	T.	13.77
Havana	do			.18	.21		1.40	.23	T.	.12	T.			2.16		.35		.44	.86			.55			2.00	2.83			1.35	.46	T.	13.14
Henry	do				.05		1.29	.09		1.00	.01	.59	.29			.30		.14	.25			.43			.32	.88		.08	.87	.60		7.19
Hillsboro ‖	Mississippi				1.05		1.04		.32						.04		2.40	.10	.75			T.				.75	.86		.05	.10		7.46
Joliet	Illinois				.07	.05	1.03	.04		.18	.20		.18	4.20	.46		1.06	3.42				.39			.22	.13		.05	.34	.01	.25	12.27
Kishwaukee	Mississippi				T.		.50	.01		.07	.01	.20	.24	2.33	.01				.85		T.	.56			.13	.02		T.	.23	.32		5.48
La Grange	Illinois				.16	T.	.65	T.		.06		.05						.04	1.85							.67		.04	.12		T.	3.64
La Harpe	do			.07	.08		2.54	.19		T.				.70		.53		.12	.10		T.	.38			1.74	1.56	T.	T.	2.08	1.75	T.	11.84
Lanark	Mississippi			.08	T.	.20	.38			.11	1.20			.08	.15			.02	.78		T.	.75			.06	.02			1.67		1.39	6.89
La Salle	Illinois			.04	.03	1.87	.03	T.		1.55	.63	.01	.04	.06	.15			.20	.25		.04	.46			.37	.03		.07	1.54	.05		7.42
Lincoln	do				.65		1.00	.33		.86		T.	2.33			.54	.20	.12	1.19			.26			1.51	3.47	.02	.25	1.04	.54	T.	14.31
Loami	do			.05	.60		.88	1.13		.10			.35		1.50	.45		.37	.50		T.	.11			1.71	1.64	T.	T.	5.35	1.15	T.	15.89
Manteno	do				.31		.88	.02		.23		.44		2.75	.25			.28	1.55			.40			.05	.65		.05	.06	.74		8.66
Martinton ‖	do				.30	.84		.04		.22	.13	.02	.39	1.10				2.90	.10		.18				1.13	T.		.20	.35		1.50	9.40
Mascoutah	Mississippi				.82		1.85	.34		.09			.36		.11				.04			.64				.62	.92		.03	.03		5.85
Minonk	Illinois			T.	.20		1.35	.08	.03	.58		.25	.40	.02	.18	.02	.15		.13			.33			.40	4.64	.04	.05	.37	.91	T.	10.13
Monmouth	Mississippi			.67	.06		1.60	.05		.60	.02		3.85	.51	.65				.16			.86			4.48	1.52		1.55	1.42	1.28	.75	20.03
Morrison	do			.66	.03	.25	1.02	T.		.95		.23	.11	.22	.06		.01	.36			.02	.66			.17	.03		.03	.21	.55	T.	5.57
Morrisonville	Illinois				.81		1.12	1.16		.09			.43		.68	.36	.30	.01								1.13	.01		2.16	.73	T.	8.99
Mount Vernon ‖	Mississippi				1.58		.66		.10		.39						.67	.30	.06	.10		.76					2.59			.30		7.51
Oregon	do						1.05			.20		.50	.12	3.00	.10				1.00			.55			.67	T.		.09	.15	.14		7.57
Ottawa	Illinois						1.35	.10		1.00		.59		.55	.17			.15	.25			.31			.35	.21			.15		1.70	6.88
Pana	Mississippi				.90		1.14	.48	.02	.06	.02		1.30		.30	.47	.28					.05			.06	2.07	.04		2.86	.82	T.	10.87
Peoria	Illinois			.21	.05	2.21	.03	.10		3.37	.21	.07	1.03	.02	.75		.02	.68		.10		.31			1.67	.41		.09	.93		.04	12.30
Pontiac	do				.49	.04	1.13	.08		1.16		.52	.15	.05	.15		1.18	.02		.34					.30	3.95		.02	.45	.85	.93	11.81
Quincy	Mississippi				.54		1.92	.18	.38		.30					.58	.43	.76	.18	.17		.28			.06	351	.09		5.66	.67		15.71
Riley	do				.01		.32			.07		.08	.18	.62	.04				1.65			.69			.13	.04		.04	.05	.48		4.40
Roberts	Illinois				.33		.70	.03	T.	.60	T.	.56	.14	.50	.19			.23	.92			.20			.26	1.76	.02	.60	.20	.53		7.77
Rockford ‖	Mississippi						.29	T.	T.	.02	.01	.48	.37	1.81					1.15			.64			.14	.11	T.	T.	T.	1.54		6.56
Rushville	Illinois			.63		1.90		.41		.06			.40		.71			.64	.66		.63				4.77	.06		1.80	1.94	T.	.04	14.65
St. Charles	do				.50		.62	.02		.17		.07	.20	.80	.68				2.75			.62			.07	.16		.06	.11	.08		6.91
St. Peter	Mississippi				1.95		1.05			.30			.38			1.45	.38	1.50			.25			.91	.61			.37	.35		9.50
Sparta	do			T.	.37		.85	T.		.38	T.	T.	.37		T.	.74	1.69	T.	.07		.57				.30	.72		.60	.08		6.74
Springfield	Illinois			.21	.18	.64	.32	.90		.17			1.36		.65	.01	.06	.49		.05	.02			1.64	1.02		.44	2.26	.25	.01	10.68
Streator ‖	do						1.35	.02	.04		.96	.70	.05	.10	.12		.32	.29			.21			.05	.82	.04	.01	.89	.80		6.77
Sullivan	Mississippi				.67		.70	.20		.43			2.03		.91	.43	.07	1.20			.05				1.57	.07		3.67	1.17		13.23
Sycamore	do				T.		.80	.10			.05	.40	.20	.85	.83			1.74			.76				.16		.02		.25		6.16
Tiskilwa	Illinois					.10	1.20			.90	.04	.63	.31		.45		.10			T.	.60				.62		.15	.55	.62	T.	6.27
Walnut	Mississippi			.08	.05	1.28		.08		.54		1.44	.08		1.06		.06	.34			.54			.70	.09		.16	.06	1.24		7.80
Warsaw ‖	do			.30		1.31		.18		.10				.82	.02		.69			.32				2.18				1.50	.15		7.57
White Hall	Illinois			.34	.42		1.27	.82		.27					.90	.31	.77	.46		.02				.94	.69	.42		.41	.09		8.13
Windsor	Mississippi				1.40		.98	1.49		.55			3.52		.43	.35	.13	.30			.03				1.80	T.		2.47	1.30	.01	14.76
Winnebago	do				.06			.40		.05		.20	.15	2.80				2.00		T.	.66			.13	.26	T.		.26	.60	T.	7.57
Yorkville	Illinois				.50		1.25			.15		.15	.05	4.00	.80		.05	2.00			.45			.25	.20	.01	.05	.20	.05		10.16
Zion	Mississippi						.80		.10		.02						T.			1.64								.20	1.40	.10	4.26

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for September, 1911. District No. 5.*

Date.	North Dakota.										Minnesota.															
	Bottineau.§§		Devils Lake.		Lisbon.§§		Minot.§§		Pembina.§§		Collegeville.		Crookston.§§		Grand Meadow.		Montevideo.§§		Moorhead.		New Ulm.§§		Pine River Dam.		St. Paul.		Winnibigoshish.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	78	55	82	53	92	51	78	51	80	56	82	59	80	56	92	57	89	56	87	58	93	58	80	45	86	62	78	51
2....	73	43	68	47	81	49	71	45	80	47	80	57	68	52	80	62	78	56	72	48	80	60	69	51	75	57	77	54
3....	74	44	74	44	80	35	80	46	76	38	75	48	73	43	80	44	76	44	76	41	76	47	72	34	75	50	72	40
4....	60	49	58	52	65	53	57	53	70	48	71	58	61	56	84	55	77	59	62	57	81	54	64	43	68	55	67	48
5....	69	45	58	47	69	54	59	47	62	46	64	56	66	55	66	57	65	57	68	48	65	57	63	53	66	54	68	54
6....	49	43	48	43	54	47	47	43	54	40	58	42	50	45	59	51	57	50	50	42	56	52	57	39	55	46	59	40
7....	60	39	56	33	54	40	56	37	66	34	50	44	55	42	64	44	49	41	55	41	52	45	49	39	52	42	51	39
8....	63	40	60	44	63	42	65	44	65	36	57	45	57	45	70	50	69	43	58	48	64	45	59	43	61	51	55	44
9....	71	39	73	50	63	47	75	45	76	46	71	49	73	47	74	46	77	48	79	49	76	49	70	49	74	51	74	47
10....	74	36	75	42	85	47	78	38	80	30	78	57	74	47	81	50	82	56	80	49	82	55	79	52	78	59	78	44
11....	62	39	60	43	78	56	62	45	58	46	75	60	65	57	84	60	84	68	72	43	83	66	78	54	82	58	71	52
12....	75	39	68	40	65	37	78	43	65	31	74	42	64	35	72	49	70	46	66	37	75	49	63	30	63	46	62	33
13....	72	40	72	46	79	42	72	45	73	36	70	45	73	40	73	51	77	46	77	44	74	50	71	42	69	49	71	45
14....	68	50	73	59	77	46	75	48	70	38	73	54	73	50	85	59	80	52	77	58	72	54	72	54	75	59	72	53
15....	75	43	77	51	86	45	82	51	78	42	81	53	78	50	79	50	87	54	83	52	82	51	77	52	81	55	80	56
16....	72	42	72	50	86	42	77	44	76	48	86	55	80	49	83	54	93	49	86	48	86	54	76	40	88	56	81	47
17....	55	43	62	46	84	50	59	45	60	46	82	60	75	50	84	59	72	52	76	45	69	57	82	50	75	58	77	60
18....	52	43	56	42	64	44	55	46	58	46	70	46	61	45	68	46	69	43	62	44	65	47	72	45	66	49	71	47
19....	68	30	66	37	77	34	70	35	70	36	66	44	67	38	68	41	67	38	70	38	71	41	66	43	68	46	68	46
20....	68	31	68	48	65	36	68	35	67	37	66	48	65	45	62	42	65	43	64	48	64	45	73	36	66	47	64	42
21....	71	32	75	45	79	46	77	39	72	38	65	49	71	45	68	44	78	45	75	46	74	49	78	46	69	50	67	48
22....	52	34	59	40	77	43	53	39	60	38	80	54	67	43	76	50	82	54	74	48	81	51	71	48	80	53	71	51
23....	50	35	50	37	59	41	47	36	52	40	75	47	51	43	73	55	63	53	54	37	64	57	62	40	69	46	67	42
24....	54	32	52	34	54	34	57	36	55	25	48	41	49	32	61	46	48	43	49	34	47	46	47	39	50	45	44	36
25....	54	30	54	36	56	30	58	31	55	32	57	41	50	35	61	44	67	43	55	34	62	45	52	34	60	43	52	36
26....	68	31	69	37	66	29	75	36	62	31	60	41	62	31	65	36	68	40	65	34	64	40	63	27	61	39	60	33
27....	49	34	49	33	69	39	55	34	50	32	61	50	50	36	73	54	70	45	56	40	71	41	68	46	66	51	57	43
28....	49	34	46	36	70	40	60	37	42	31	56	41	47	38	56	49	58	44	60	39	59	49	50	37	51	43	46	34
29....	66	33	64	34	60	30	70	36	58	37	57	41	53	39	60	42	65	38	57	39	60	41	54	37	58	44	54	37
30....	68	33	63	46	60	34	72	39	62	36	55	41	60	40	50	38	54	49	57	42	54	42	54	39	51	40	51	33
Mns..	64.0	38.7	63.6	43.2	70.6	42.1	66.3	41.6	65.1	38.9	68.1	48.9	63.9	44.3	71.7	49.5	71.2	48.5	67.4	44.4	70.1	49.9	66.4	42.9	67.9	50.1	65.5	44.5

Date.	Wisconsin.														Iowa.											
	Delavan.		Eau Claire.		La Crosse.		Madison.		Mauston.		Spooner.		Wausau.		Algona.		Cedar Rapids. §§		Charles City.		Davenport.		Des Moines.		Dubuque.		Keokuk.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	88	52	85	58	88	55	88	60	85	51	.....	.....	84	56	97	63	92	55	92	54	95	61	97	57	88	56	94	66
2.....	88	57	81	62	79	55	78	63	75	50	.....	.....	78	60	86	64	83	55	79	57	89	65	85	70	83	65	94	69
3.....	78	46	76	46	79	50	77	55	75	45	.....	.....	74	61	81	48	81	56	78	49	78	59	81	62	76	54	85	66
4.....	81	52	77	55	84	57	81	55	78	48	.....	.....	73	48	89	61	87	56	84	57	87	57	89	61	82	56	87	62
5.....	82	64	73	58	74	58	81	58	78	62	.....	.....	74	56	76	63	86	57	71	59	86	62	87	62	83	62	85	66
6.....	71	58	61	48	64	55	65	56	63	53	.....	.....	63	46	64	55	73	60	62	57	76	60	82	56	66	60	86	60
7.....	68	57	55	43	55	46	63	55	57	46	.....	.....	58	40	62	48	64	60	59	52	70	60	64	54	62	56	70	62
8.....	65	56	63	50	62	50	64	53	60	50	.....	.....	55	48	64	50	66	56	68	52	68	59	67	52	65	56	70	59
9.....	77	56	74	50	72	47	72	56	72	50	.....	.....	68	53	76	51	79	57	72	50	80	61	78	61	71	59	78	62
10.....	76	61	80	56	83	61	77	62	80	57	.....	.....	73	54	82	62	81	51	81	62	80	66	85	64	81	66	79	67
11.....	81	61	80	58	86	61	81	63	80	57	.....	.....	77	53	82	73	88	60	85	62	85	64	91	67	83	61	86	64
12.....	70	55	73	45	67	51	66	52	75	49	.....	.....	70	39	78	60	68	61	75	54	74	62	82	63	72	60	84	70
13.....	69	47	71	46	74	53	68	50	70	46	.....	.....	67	45	72	60	69	56	73	59	70	55	71	61	72	55	70	60
14.....	84	54	70	52	87	56	86	56	80	54	.....	.....	65	49	82	63	90	57	88	61	92	66	90	66	90	61	93	67
15.....	71	52	79	51	79	53	77	60	78	55	.....	.....	76	52	79	52	77	60	79	52	77	62	77	59	76	59	74	61
16.....	84	49	85	50	86	54	84	57	81	55	.....	.....	84	50	87	55	82	52	86	51	82	57	84	55	82	53	79	58
17.....	80	53	80	53	80	52	78	56	80	50	.....	.....	81	50	82	73	81	52	80	59	82	63	88	65	80	58	83	69
18.....	76	60	75	52	66	54	71	55	75	56	.....	.....	74	52	80	48	70	57	64	49	78	55	70	55	71	55	78	55
19.....	72	42	64	45	70	45	68	50	76	44	.....	.....	67	44	69	44	68	48	66	42	71	49	71	46	68	50	70	52
20.....	72	43	65	41	65	45	65	52	65	40	.....	.....	67	45	62	50	63	48	62	45	68	52	60	51	65	48	68	55
21.....	69	55	69	51	69	50	65	54	65	50	.....	.....	68	39	77	46	68	51	67	47	70	56	71	47	68	53	70	55
22.....	72	44	78	50	77	51	72	51	75	44	.....	.....	.....	.....	79	61	77	51	77	52	76	54	78	54	75	51	75	53
23.....	76	53	75	50	79	57	74	53	75	54	.....	.....	74	48	71	55	81	52	80	54	79	56	83	56	77	57	80	54
24.....	64	51	64	46	56	48	66	48	70	48	.....	.....	66	43	55	47	62	55	54	50	70	56	58	51	68	53	74	62
25.....	64	50	60	46	54	44	55	48	55	40	.....	.....	54	43	58	46	60	53	57	41	62	51	63	50	57	48	63	57
26.....	64	39	61	35	63	41	62	45	63	36	.....	.....	60	33	67	47	71	44	65	37	68	47	70	47	66	41	67	55
27.....	78	56	70	53	75	54	73	50	75	57	.....	.....	68	51	68	58	79	44	75	56	83	65	83	60	78	58	77	65
28.....	70	47	63	42	55	48	65	48	70	44	.....	.....	63	35	73	53	73	58	69	53	73	57	78	60	68	51	81	65
29.....	68	48	55	45	57	41	58	47	53	46	.....	.....	50	44	66	53	65	55	60	45	68	49	68	54	59	47	72	56
30.....	65	35	51	34	53.	36	56	43	56	32	.....	.....	53	41	55	48	.....	43	52	42	61	45	57	50	56	41	68	51
Mns.....	74.1	51.8	70.4	49.0	71.4	50.9	71.2	53.7	71.2	49.0	.....	.....	68.4[a]	47.6[a]	74.0	55.2	75.3[a]	54.0	72.0	52.0	76.6	57.7	76.9	57.2	72.9	55.0	78.0	60.8

TABLE 3.—*Maximum and minimum temperatures for September, 1911. District No. 5*—Continued.

Date.	Hannibal, Mo.		Laporte, Ind.		Illinois.															
					Cairo.		Greenville.		La Salle.		Monmouth.		Mount Vernon.§§		Peoria.		Springfield.		Winnebago.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	93	64	91	.....	86	64	89	63	92	60	95	55	89	57	95	56	90	64	93	54
2	94	66	88	62	86	67	92	63	91	64	95	63	89	60	95	62	92	65	86	68
3	87	64	79	.....	90	68	88	68	77	57	86	60	88	65	83	62	83	62	80	54
4	85	65	.....	.....	88	68	87	65	85	55	90	58	90	63	90	60	86	63	85	53
5	86	66	.....	.....	84	69	78	66	84	64	85	64	87	68	85	64	81	67	84	52
6	90	64	.....	.....	91	69	87	66	74	59	87	56	92	70	84	57	84	63	70	57
7	72	65	75	60	87	65	83	64	76	63	72	62	86	64	75	62	78	64	69	59
8	74	62	74	55	87	72	81	68	75	61	76	59	85	65	73	62	72	64	66	55
9	82	66	75	56	84	71	82	64	81	63	79	62	85	68	80	63	78	62	79	60
10	76	65	76	55	88	72	81	71	75	66	82	62	85	68	77	64	76	68	82	60
11	87	63	84	58	86	71	83	66	82	62	85	62	82	66	82	63	83	66	84	61
12	87	72	74	52	92	68	88	69	70	59	81	65	93	68	78	60	82	66	69	57
13	82	63	74	50	88	70	80	61	72	56	70	57	90	64	72	51	69	58	73	50
14	95	69	75	50	92	74	92	67	90	59	93	57	95	63	93	65	92	66	90	55
15	83	66	76	51	93	77	86	71	79	65	78	64	92	73	78	60	80	64	78	50
16	76	66	.....	.....	84	71	76	69	84	58	83	53	85	70	83	54	79	65	85	48
17	87	69	83	53	88	71	80	70	84	64	84	53	84	69	80	67	79	70	82	56
18	79	62	82	60	93	72	86	70	77	60	79	54	94	71	76	60	78	65	75	60
19	70	53	67	55	75	64	74	59	70	52	73	48	76	54	71	51	71	56	71	47
20	68	53	70	49	80	59	75	53	69	50	67	48	78	53	72	49	72	54	71	48
21	72	54	66	45	75	62	68	60	69	57	71	55	69	54	70	50	70	56	67	53
22	75	49	.....	.....	74	58	76	55	75	49	77	49	76	53	77	46	74	53	77	46
23	80	55	.....	.....	81	59	78	56	77	54	80	51	81	53	78	50	78	53	77	49
24	81	65	.....	.....	86	62	85	62	71	60	70	64	88	55	69	62	73	63	67	55
25	68	59	77	45	88	69	73	65	62	56	65	53	73	64	65	57	73	61	66	41
26	69	58	65	46	84	68	70	60	66	53	70	53	71	60	71	53	70	58	70	50
27	90	68	77	55	91	69	86	64	82	66	84	53	87	63	84	65	87	66	79	55
28	83	67	63	50	91	72	78	67	72	57	74	63	84	66	73	60	76	67	77	60
29	76	59	69	53	84	66	76	62	70	49	74	53	79	68	73	49	74	57	68	49
30	72	55	67	40	78	62	69	55	59	43	61	44	78	56	62	44	66	51	58	39
Mns.	80.6	62.4	75.1[a]	52.5[b]	85.8	67.6	80.9	64.0	76.3	58.0	78.9	56.7	84.4	63.0	78.1	57.6	78.2	61.9	75.9	53.4

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1911.

DISTRICT No. 6, MISSOURI VALLEY.

MONTROSE W. HAYES, District Editor.

GENERAL SUMMARY.

In the lower part of the district, where the rainfall was deficient through most of the summer, heavy rains occurred during September. They improved pasturage, filled the small streams, and were beneficial in numerous other ways, but at the end of the month they were causing corn to sprout in shock, and in the grazing country were interfering somewhat with the curing of range grass for winter pasturage. In the remaining territory there was sufficient precipitation for all necessities. In Montana, North Dakota, and most of Wyoming the weather was cool, but in the rest of the district it was warm for the season, and in the extreme southern and southeastern regions it was unusually warm. The sunshine was very generally deficient, and the wind movement appears to have been somewhat less than is usual in September. No frost was reported in Missouri and Kansas. In Iowa none occurred that was heavy enough to damage staple crops, although the temperature was down to the freezing point at three stations on the 19th. In Nebraska there was light frost in the northern counties, and on the 19th a killing frost occurred at a few places in the northwestern part of the State; in the counties where corn is grown extensively there was none. In numerous localities in the northern and western portions of the drainage area frost occurred frequently, but the sections devoted to agriculture seem to have been practically free from it; the only damage reported was in some of the valleys of the Black Hills in South Dakota.

TEMPERATURE.

In Missouri, Kansas, and that part of Nebraska lying south of the Platte River the weather was unusually warm during the first 14 or 15 days, and the average daily excess in temperature for the whole month ranged from 2° to 6°. In Montana, North Dakota, and the northern part of Wyoming there was a deficiency that was almost as marked, and between these areas of extremes the average values for the month were not far from the normal. The month opened warm, but in the region from which the streams enter the Missouri River above Sioux City the wave of high temperatures was of short duration, while in southern Wyoming, Colorado, Nebraska, Kansas, Iowa, and Missouri it lasted until the 13th and 14th. The highest temperatures in Montana and North Dakota were between 90° and 95°; all the other States in the district had one or more stations at which thermometer readings reached, or exceeded, 100° at some time during the first 13 days. The highest record was 109° at Alton, Kans., on the 13th. After the 14th cooler weather prevailed, and some unusually low temperatures occurred In the lower part of the district, where the excess for the month was so marked, the 19th was particularly cool. The lowest record was 4° at Fountain, Yellowstone National Park, Wyo., on the 19th.

PRECIPITATION.

In all of Montana, except the south central part, in North Dakota, all of South Dakota, except the Black Hills country, southeastern Nebraska, eastern Kansas, and Missouri there was an excess of precipitation. In the other parts of the drainage area most of the stations had a deficiency or an amount that was seasonable. The greatest precipitation was over the extreme lower part of the district, and excessively heavy amounts occurred over the watershed of the Marmaton and over the territory tributary to the Osage below its confluence with the Marmaton. The precipitation in the northern counties of Montana also was notably heavy. In practically all of the drainage area the precipitation was fairly well distributed through the month. There were several periods of wet weather that were well marked locally, but none that covered all or a considerable portion of the district. The greatest precipitation for the month was 14.95 inches at Sublett, Mo., and the greatest amount in 24 consecutive hours was 6.18 inches at Fullerton, Nebr., on the 10th. Snow fell in Montana, Wyoming, North Dakota, and Colorado, but it amounted to hardly more than a trace outside of the mountain country. The heaviest fall for the month was 15 inches at Babb, Mont., a station on the Canadian border and near the main divide.

RIVERS.

Between the 15th and the 18th excessive rains in southwestern Missouri and southeastern Kansas, where the soil already was saturated, caused rapid rises in the south tributaries of the Osage River. Most of these streams rose almost to flood stage, but none appears to have overflown its banks except the Marmaton. This river and most of the creeks feeding it were in flood for several days, causing considerable damage to crops and bridges. The small streams throughout the district were as high as, or higher than, they usually are in September. There was a sudden rise in the Missouri on the night of the 16th–17th at Yankton, S. Dak., and a pontoon bridge was carried out. Below Yankton the rise had no marked effect, and as far down as the mouth of the Osage fairly normal stages prevailed. Below the mouth of the Osage the Missouri was slightly above the normal September stage during the last third of the month.

MISCELLANEOUS.

On the 2d, between 3 and 4 p. m., a storm of tornadic character occurred 25 miles south of White Sulphur Springs, Mont. Doubtless it was the same storm described as follows by the observer at Wall Rock Mountain, Mont.: "Apparently it started from Grass Mountain and crossed the basin to Battle Creek, moving in a northeasterly direction. It lifted from the surface after reaching the range of hills at the east of the basin. The soil in this basin is a loose red shale, and the storm presented a most unusual appearance—a gigantic, twisting column of brick-red color, capped by a whirling white funnel. The diameter at the base was approximately 100 feet; the height could not be estimated."

In the June, 1911, issue of the Review mention was made of plans for stopping the erosion of Sioux Point, S. Dak., at the confluence of the Big Sioux and Missouri Rivers. The work outlined has been in progress for three months and now is about one-fifth completed. During the first half of September the operation of barges carrying material to be used in riprapping was impeded by low water. More favorable conditions prevailed during the latter half of the month.

Bates County, Mo., on the Kansas line, has issued bonds to the amount of $171,000 further to control the Osage River, which makes continuous bends in its course through the county and overflows a large acreage of farm land. A canal made possible by a bond issue of $273,000 several years ago is in use now, and it is proposed to lengthen it and increase its capacity for diverting the river's flood waters.

TABLE 1.—*Climatological data for September, 1911. District No. 6, Missouri Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Arapahoe	Fremont		2																	A. E. Diets.
Barnum	Johnson	5,500	6								T.		T.	0	0	17	11	2	w.	Thos. Freeguard.
Basin	Bighorn	3,862	12	60.6	− 0.2	95	13	31	19	51	0.30	− 0.10	0.17	0	2	26	1	3	nw.	O. J. Robertson.
Bennett	Carbon		2								1.45		0.72	0	6	20	8	2	w.	Chas. C. Young.
Big Creek Station	do	7,500	....	54.7[i]		85	3	21	30	52[i]	1.17		1.02	0	3	9[i]	8[i]	3[i]	sw.	U. S. Forest Service.
Burns	Laramie	5,400	2																	Alex. Hastie.
Casper	Natrona	5,101	2								0.16		0.04	0	7	13	8	9	sw.	M. C. Cook.
Centennial	Albany	8,074	8	55.0		80	12	31	9†	43	0.59		0.25	0	7	6	11	13	w.	Louis A. Gregory.
Cheyenne	Laramie	6,088	40	60.7	+ 3.5	88	12	33	19	36	1.35	+ 0.41	1.12	T.	7	5	15	10	s.	U. S. Weather Bureau.
Chugwater	do	5,282	10	60.8[d]	+ 3.0	92	12	27	19	53[d]	0.82	− 0.32	0.30	0	5	14[d]	10[d]	2[d]	w.	A. H. Woolever.
Clark	Park	4,320	5	58.4		86	1	36	23†	33	1.36		0.51	0	6	13	9	8	n.	Chas. A. C. Snow.
Cody	do	5,000	4	57.2		85	1†	28	18	44	0.55		0.20	0	7	13	8	9	w.	C. W. Dibble.
Crazy Creek	do	6,828	....	44.4		78	1†	12	19	51	2.05		0.50	0	12	17	6	7	w.	Jas. Smith.
Dome Lake	Sheridan	8,821	3								2.26		0.80	8.0	7	15	11	4	w.	Abe Mills.
Douglas	Converse	4,793	2	60.0		90	12	31	18†	40	0.76		0.60	0	4					Henry C. Miller.
Dubois	Fremont	6,909	4	49.0		79	1†	11	29	58	1.49		0.45	0	8	11	14	5	w.	Dr. F. H. Welty.
Eatons Ranch	Sheridan	4,600	6	56.8[e]		89	12	30	24	34[e]	1.15		0.85	0	3	18[e]	8[e]	1[e]	n.	F. A. Eaton.
Echeta	Crook	4,200	2								0.49		0.40	T.	3	24	4	2	s.	M. R. Hunter.
Elk Mountain	Carbon		6								1.65		0.55	0	9					Wm. Richardson.
Encampment	do	7,322	2	56.2[e]		81	12	32	21	40[e]	0.89		0.48	0	8	5[e]	17[e]	3[e]	sw.	U. S. Forest Service.
Ervay	Natrona	6,400	2	55.6[f]		86	11	22	18	47[f]	1.23		1.12	0	3	9[f]	9[f]	6[f]	sw.	Frank Jameson.
Fort Laramie	Laramie	4,270	33	63.6	+ 3.4	100	3	31	19	48	0.33	− 0.61	0.12	0	6	17	13	0	w.	John Hunton.
Fox Park	Albany	9,015	1	46.0		74	12	15	7	50	1.31		0.70	0	4	14	12	4	w.	U. S. Forest Service.
Germania	Bighorn	4,312	....	47.6		89	12	30	19	47	0.23		0.23	0	1	20	4	6	nw.	L. E. Watson.
Gillette	Crook	4,540	5	59.6		87	11	35	18†	33	0.84		0.70	T.	3	19	10	1		S. D. Perry.
Horse Creek	Fremont		....	44.6		73	1	14	18	45	1.48		0.38	1.0	8	15	9	6	w.	U. S. Forest Service.
Hunters Station	Johnson	8,000	5	48.1		77	12	21	18	40	0.73		0.34	2.0	5	20	4	6	w.	Do.
Hyattville	Bighorn	4,632	12	59.6	+ 0.5	94	1	29	18	57						13	7	10		Wm. Booth.
Jireh	Converse	5,050	1								0.46		0.13	0	8	13	16	1	nw.	P. L. Ford.
Kirtley	do		7					32	19		0.15		0.08	0	2	12	17	1	nw.	D. M. Zum Brunnen.
Kirwin	Park	9,187	3	46.6		78	22	22	25	38	1.29		0.47	2.0	5	9	10	11	w.	C. L. Tewksbury.
Knowles	Crook	4,500	2																	Geo. A. Knowles.
Lagrange	Laramie	4,510	1								0.86		0.32	0	7	23	6	1	w.	Owen Shupp.
Lander	Fremont	5,372	19	56.2	+ 1.0	84	1	27	18	47	0.22	− 0.80	0.17	0	4	13	9	8	sw.	U. S. Weather Bureau.
Laramie	Albany	7,188	20																	University of Wyoming.
Leo	do	6,878	10																	C. A. Cowdin.
Lolabama Ranch	Park	7,052	7	47.0		77	11	21	19†	45	0.42		0.25	2.5	3	15	14	1	w.	Mary E. Painter.
Lovell	Bighorn	3,825	6	57.3		88	1	28	19	49	0.42		0.25	0	3	8	10	12	n.	R. Fred Harrison.
Lusk	Converse	5,007	21	59.7	+ 2.8	90	12	23	18	54	0.95	+ 0.16	0.60	0	2					D. E. Goddard.
Manville	do	5,050	1								0.36		0.09	0	5	19	10	1	se.	C. A. Sherman.
Moorcroft	Crook	4,111	8	63.4[a]		95	1†	35	19†	50[a]	0.54		0.30	0	5	18[a]	7[a]	4[a]		C. T. McCampbell.
Moore	Albany	6,000	10	59.2[e]	+ 2.4	92	12	27	7	48[e]	0.25	− 1.25	0.20	0	4	3[e]	18[e]	4[e]	w.	Edwin Morre.
Newcastle	Weston	4,319	4	62.6		94	13	35	18	43	0.41		0.31	0	2	22	7	1	sw.	Dr. S. W. Johnson.
Pathfinder	Natrona	5,735	5	60.0		86	1	33	7	43	0.54		0.34	0	3	9	15	6	sw.	Engineer U. S. R. S.
Phillips	Laramie	4,900	8																	Mrs. Arthur Rugg.
Pinebluff	do	5,038	9	62.8[a]		93	2	35	18	52[a]	2.43		1.96	0	8	17[a]	9[a]	3[a]		C. L. Beatty.
Pine Ridge	Crook										0.68		0.45	T.	5	18[e]	3[e]	4[e]		J. E. S. Altaffer.
Powell	Park	4,376	4	58.0		87	12	33	18†	44	0.67		0.36	0	6	4	21	5	nw.	U. S. Reclamation Service.
Rambler	Carbon	9,332	1								3.97		0.73	0	14	11	10	9	ne.	U. S. Forest Service.
Rawlins	do	6,748	9	56.4		81	1†	27	19	43	1.46		0.37	0	10	13	9	8	w.	E. J. Ehrenfield.
Riverton	Fremont	4,960	2	58.1		89	11	26	18	52	0.26		0.19	0	4	18	11	1	e.	F. H. Allyn.
Rocky Point	Crook										1.56		0.70	0	5	14	11	5	s.	P. Woxen.
Saratoga	Carbon	6,785	13	55.5	+ 1.0	81	11†	20	19	51	1.33	+ 0.36	0.38	0	12	14	11	5	sw.	G. Frederick Clark.
Seven Mile Creek	do										0.20		0.10	0	5	1[e]	14[e]	0[e]	w.	U. S. Forest Service.
Sheridan	Sheridan	3,790	16	56.4	− 0.2	89	12	29	19	49	1.54	− 0.18	0.34	0	9	12	6	12	nw.	U. S. Weather Bureau.
Shoshone Dam	Park	5,385	5	59.5		91	1	35	7	37	0.52		0.44	0	2	13	13			U. S. Reclamation Service.
Soldiers Home	Johnson	4,635	19	53.2	− 4.7	89	12	18	24	42	0.49	− 0.37	0.20	0	7	14	0	16	n.	Geo. L. Courtney.
South Pass City	Fremont	7,873	9	46.4		75	1	11	18	48	1.42		0.43	0	13	10	11	9	sw.	John Sherlock.
Sundance	Crook			58.8		90	12	31	18	46	0.83		0.30	0	6	15	8	7	w.	Geo. W. Ashdown.
Thermopolis	Fremont	4,350	7	61.1		92	1	27	29	52	0.58		0.29	0	4	18	9	3	nw.	A. L. Duhig.
Verona	Sheridan	4,360	2								1.60		0.60	0	6	13	15	2	se.	O. A. Roode.
Wheatland	Laramie			62.2		89	12	31	19	43	0.39		0.20	0	5	10	8	12	w.	A. de F. Snively.
Wiants Ranch	Carbon	7,400	1								1.40		0.44	0	12	8	12	10	sw.	Ira G. Wiant.
Wiley	Park	5,375	2	57.1		85	1	31	21	42	0.40		0.12	0	3	15	11	4	w.	Thos. S. Harrison.
Woodrock	Sheridan										2.01		0.85	8.0	9	20	9	1	sw.	U. S. Forest Service.
Worland	Bighorn			58.8		92	12	28	29	55	0.20		0.08	0	5	15	13	2	nw.	Harry S. Smith.
Wyncote	Laramie	4,207	4	62.6		92	12	31	21	52	0.75		0.44	0	6	14	15	1	e.	U. S. Reclamation Service.
Yellowstone Park	Yellowstone Park	6,200	23	49.0	− 4.4	78	2	25	18	38	1.11	+ 0.10	0.75	0.4	7	7	14	9	sw.	U. S. Weather Bureau.
Fairview Dome (1)	do	7,000	6	46.5		80	2	17	29	50	1.51		0.40	0	11	15	8	7	sw.	U. S. Army.
Fountain (2)	do	7,220	5	45.0		79	2	4	19	58	0.01		0.01	0.1	1	20	5	5	n.	Do.
Gallatin (3)	do																			Do.
Grand Canyon (4)	do	7,900	4	44.4		58	5	15	18	47	1.67		0.54	1.0	10	7	12	11	sw.	Do.
Lake Yellowstone (5)	do	7,733	7	44.8		72	1	20	29	40	1.42		0.50	2.0	6	13	0	17	s.	Do.
Norris (6)	do	7,575	7	43.8		81	1	11	29	54	0.61		0.22	0	4	19	7	4	sw.	Do.
Riverside (7)	do	6,500	5	49.2		92	5	15	29	67	0.55		0.24		4	20	0	10	w.	Do.
Sylvan Pass (8)	do	7,000	4	43.5		80	1	18	15†	52	2.57		0.54		12	17	0	13	w.	Do.
Thumb (9)	do	7,772	5	43.8		75	1	20	18†	42	1.00		0.50		3	17	5	8	sw.	Do.
Tower Falls (10)	do	6,250	2	48.8		85	2	12	19†	55	1.24		0.46	0	6	13	3	14	w.	Do.
Upper Geyser Basin (11)	do	7,395	7	48.0		79	2	16	20	48	1.55		1.00	T.	3	15	13	2	w.	Do.
Montana.																				
Adel	Cascade	5,200	13	49.5	− 2.2	80	1	20	23	46	2.70	+ 0.83	1.20	0	8	13	7	10	w.	Mrs. B. F. Burch.
Agricultural College	Gallatin	4,700	14																	Prof. E. Burke.
Augusta	Lewis and Clark	4,071	13	48.2	− 3.4	82	1	13	23	54	2.23	+ 0.48	0.69	6.0	5	19	5	6	w.	C. C. Covington.
Babb	Teton	4,461	5	44.5		75	11	24	23	44	5.07		2.00	15.0	12	14	10	6	sw.	U. S. Reclamation Service.
Badger Creek	do	4,060																		Do.
Bald Butte	Lewis and Clark	6,500	2								1.60		0.48	3.1	8	9	7	14		M. W. Alderson.
Bigtimber	Sweet Grass	4,072	5	56.4		88	1	28	19†	44	0.89		0.45	0	4	16	5	9	w.	F. A. Severance.
Bigtimber Creek	do		2								1.77		0.45	1.0	8	12	13	5	w.	J. T. Mjolsness.
Billings	Yellowstone	3,115	16	56.9	− 3.0	90	1	26	19	55	0.50	− 0.35	0.18	0	5				w.	U. S. Weather Bureau.
Blackleaf	Teton	4,260	4																	Adolph Aman.
Bloomfield	Dawson		3																	E. B. Chaney.
Boulder Nursery	Jefferson	4,920	17	50.8	− 1.0	85	1	17	25	48	1.15	− 0.24	0.40		9	2	22	6		U. S. Forest Service.
Bowen	Beaverhead	6,060	5	42.0		83	1	8	25	56	1.35		0.93		4	18	8	4		B. B. Lawrence.
Bridger	Carbon	3,664	3	57.0		89	1	26	19	49	0.39		0.15	0	4	8	14	8	n.	L. E. Gard.

TABLE 1.—*Climatological data for September, 1911. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Montana—Continued.																				
Broadview	Yellowstone		5	55.6	.....	92	1	20	24	50	1.20	.....	0.40	2.0	5	20	8	2	e.	Mabel Sudduth.
Busby	Rosebud		8	59.2	.....	92	1	26	19†	57	0.90	.....	0.30	0	4	16	8	6	nw.	Rev. G. A. Linscheid.
Busteed	Sweet Grass		4	54.0	.....	86	1	27	19†	50	1.09	.....	0.38	2.0	6	12	14	4	nw.	T. H. Busteed.
Cabin Creek	Beaverhead		2	.....	.....	.....	.....	.....	.....	.....	1.02	.....	0.55	.....	6	16	9	5	s.	W. J. Crowell.
Canyon Ferry	Lewis and Clark	3,644	13	54.2	− 1.7	88	1	27	25	44	1.70	+ 0.56	0.51	0.7	7	17	7	6	nw.	A. C. Pratt.
Cascade	Cascade	3,361	7	52.4	.....	82	1†	21	25	48	2.83	.....	1.21	1.0	10	14	9	7	sw.	Dr. E. E. James.
Chessman Reservoir	Lewis and Clark	5,275	3	44.8	.....	75	1†	23	23	34	1.94	.....	0.90	4.2	8	21	1	8	sw.	C. D. Schmidt.
Chester	Chouteau	3,140	7	50.4	.....	83	2	24	23	44	3.99	.....	2.35	5.0	4	16	7	7	ne.	E. D. Keith.
Chinook	....do	2,502	13	53.0[b]	− 3.4	85[b]	4	25[b]	25	36[b]	7.09	+ 5.76	3.40	.....	10	.....	.....	.....	w.	T. O'Hanlon Co.
Chouteau	Teton	3,810	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. J. Moore.
Clear Creek	Chouteau		6	50.3	.....	79	2	21	25	38	5.65	.....	2.43	0	8	14[c]	5[c]	8[c]	.....	Cortez Sedgewick.
Clemons	Lewis and Clark	4,672	2	.....	.....	.....	.....	.....	.....	.....	3.64	.....	1.50	7.5	8	6	11	13	w.	Fred Eberl.
Clydepark	Park		1	.....	.....	.....	.....	.....	.....	.....	0.85	.....	0.23	0	7	12	9	9	.....	Dr. T. B. Marquis.
Conrad	Teton			48.2	.....	80	2	23	24†	37	4.71	.....	1.50	.....	6	19	4	7	w.	I. S. Martine.
Copper	Meagher		6	.....	.....	.....	.....	.....	.....	.....	1.92	.....	0.50	1.0	11	15	5	10	w.	Orville Harris.
Crow Agency	Rosebud	3,041	30	58.6	− 0.1	89	1†	.....	.....	49[f]	0.54	− 0.37	0.24	T.	6	8	6	16	sw.	Ira R. Bamber.
Culbertson	Valley	1,927	8	58.0[e]	.....	92[e]	1	35[e]	19†	45[e]	4.41	.....	1.78	0	6	5[e]	12[e]	8[e]	.....	G. H. Coulter.
Cummings	Carbon		1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Brimmer.
Cut Bank	Teton	3,700	12	47.9	− 2.3	81[b]	1	22[b]	23	36[b]	4.14	+ 2.22	1.92	.....	6	14[b]	5[b]	9[b]	w.	C. N. Thomas.
Denton	Fergus	3,500	3	53.2	.....	83	2	26	23	35	2.02	.....	0.54	0.2	8	20	3	7	nw.	P. J. Greisenauer.
Dillon	Beaverhead	5,147	14	54.2	+ 0.8	84	1	27	22	40	1.03	− 0.66	0.26	0	9	14	9	7	sw.	Prof. J. E. Monroe.
Dirty Creek	Meagher	6,000	2	.....	.....	.....	.....	.....	.....	.....	1.78	.....	0.33	0	10	9	14	7	w.	Lewis Cameron.
Dry Creek	Broadwater	5,500	2	.....	.....	.....	.....	.....	.....	.....	1.95	.....	0.81	1.0	10	10	16	4	w.	J. C. Stuart.
Dry Wolf Camp	Cascade	6,000	2	.....	.....	.....	.....	.....	.....	.....	1.81	.....	0.70	1.8	6	17	6	7	sw.	Mrs. R. J. Eveleth.
East Gallatin River	Gallatin	6,000	3	.....	.....	.....	.....	.....	.....	.....	1.25	.....	0.31	0	7	18	8	4	w.	John Eberhart.
Ekalaka	Custer		1	59.1	− 0.7	88	1	33	29	49	2.14	+ 0.45	1.12	0	5	19	2	9	w.	Wm. Freese.
Elkhorn	Jefferson	6,576	3	.....	.....	.....	.....	.....	.....	.....	1.29	.....	0.57	1.0	7	7	16	7	w.	James Heagan.
Evans	Cascade	4,900	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Thrasher.
Fallon	Custer	2,208	7	57.4	.....	90	3	27	25	46	2.51	.....	1.72	0	5	17	10	3	w.	Mrs. A. C. Gifford.
Fish Creek	Silver Bow	8,500	2	43.7	.....	70	1	26	7†	30	2.43	.....	0.68	6.6	7	21	4	5	w.	O. B. Tilton.
Flathead Creek	Gallatin	6,000	2	50.1	.....	85	1	27	29	40	1.68	.....	0.42	T.	8	5	13	12	nw.	Alta Williams.
Forsyth	Rosebud	2,514	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wayne Wakefield.
Fort Benton	Chouteau	2,630	32	54.8	− 2.1	86	1	27	25	34	3.90	+ 2.80	1.10	0	6	21	6	3	.....	Jere Sullivan.
Fort Shaw	Cascade	3,500	23	54.8	− 0.8	90	1	20[a]	24	47[a]	1.72	+ 0.82	0.70	0	7	16	5	9	sw.	U. S. Reclamation Service.
Fort W. H. Harrison	Lewis and Clark	4,004	8	52.6	.....	87	1	25	22	36	.....	.....	.....	.....	.....	21	0	9	w.	Post Hospital.
Foster	Yellowstone		2	58.0	.....	92	15	27	19	58	0.76	.....	0.42	0	5	18	6	6	nw.	E. K. Bowman.
Garneill	Fergus	5,500	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thos. E. Scally.
Glasgow	Valley	2,092	15	54.8	− 1.1	88	3	27	25	39	4.63	+ 3.60	1.50	0	7	17	6	7	w.	W. M. Leonard.
Glendive	Dawson	2,069	21	57.4	− 1.7	88[a]	2	34	24†	43[a]	3.13	+ 1.99	1.53	0	8	10	15	7	s.	E. C. Leonard.
Goldbutte	Chouteau		4	49.4	.....	81	11	20	23	37	5.40	.....	3.28	6.0	11	8	15	7	n.	J. Berthelote.
Graham	Custer		6	58.2	.....	90	1	29	18†	53	2.26	.....	1.14	0	5	17	9	4	nw.	J. S. Rue.
Grayling	Gallatin	6,700	6	43.6	.....	80	2	10	29	55	0.94	.....	0.52	0	7	10	10	10	sw.	P. Kerzenmacher.
Great Falls	Cascade	3,350	20	53.4	− 3.5	82	1	26	25	37	2.18	+ 0.93	0.54	T.	9	14	9	7	sw.	S. H. Bauman.
Half Moon Pass	Fergus	6,500	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Stigen.
Half Way House	Broadwater	6,000	2	.....	.....	.....	.....	.....	.....	.....	2.96	.....	0.72	0.1	9	11	6	13	ne.	Gordon Deans.
Harlowton	Meagher	4,165	4	52.0[e]	.....	88[e]	1	22[e]	19	47[e]	.....	.....	.....	.....	.....	2[e]	6[e]	17[e]	w.	Joseph Muir.
Havre	Chouteau	2,505	32	52.6	− 5.0	82	2	26	25	33	5.99	+ 4.96	2.70	4.8	10	17	4	9	e.	U. S. Weather Bureau.
Helena	Lewis and Clark	4,110	32	51.2	− 5.0	86	1	25	23	35	2.24	+ 1.18	1.55	1.2	7	13	7	10	sw.	Do.
Highwood	Chouteau		5	.....	.....	.....	.....	.....	.....	.....	3.17	.....	0.76	0.5	10	20	1	9	sw.	W. S. McCord.
Huntley	Yellowstone	3,014	5	58.6	.....	90	1	29	19	47	0.56	.....	0.42	0	2	11	16	3	e.	U. S. Reclamation Service.
Jones Canyon	Gallatin	6,800	2	.....	.....	.....	.....	.....	.....	.....	1.56	.....	0.45	0	8	.....	.....	.....	w.	James McCune.
Jordan	Dawson		6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. C. Henderson.
Knobles Ranch	Chouteau			.....	.....	.....	.....	.....	.....	.....	8.47	.....	3.40	7.5	8	18	1	11	.....	F. H. Knoble.
Lewistown	Fergus	4,010	15	52.2	− 1.5	83	13	21	24	49	1.81	+ 0.04	0.47	T.	8	13	12	5	w.	W. W. Watson.
Livingston	Park	4,488	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. A. Jennings.
Lonetree	Chouteau	3,280	6	54.2	.....	86	2	22	25	43	2.94	.....	0.75	0	7	20	3	7	w.	E. Wilson.
Malta	Valley	2,240	5	53.5	.....	81	2†	25	24	36	5.81	.....	2.33	T.	9	16	9	5	nw.	U. S. Reclamation Service.
Medicine Lake	....do		1	53.2	.....	88[a]	3	24[a]	25	38	4.51	.....	1.55	0	10	19	4	7	e.	J. S. Collier.
Melstone	Fergus	2,903	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. J. Parkinson.
Mildred	Custer		2	.....	.....	.....	.....	.....	.....	.....	2.13	.....	1.37	0	6	11	17	2	nw.	Leon B. Clark.
Miles City	....do	2,371	20	61.0	− 0.2	94	3	34	25	41	1.58	+ 0.66	1.19	0	7	17	9	4	ne.	U. S. Weather Bureau.
Norris	Madison	4,845	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Madison River Power Co.
Nye	Sweet Grass		3	47.4	.....	78	10	19	17	49	1.21	.....	1.21	T.	9	15	4	11	e.	F. L. Bryant.
Olsen Creek	Jefferson	6,345	3	.....	.....	.....	.....	.....	.....	.....	1.34	.....	0.53	0	7	11	11	8	w.	Robert Olsen.
Pipestone Pass	....do	7,000	3	.....	.....	.....	.....	.....	.....	.....	1.94	.....	0.51	1.5	7	9	15	6	w.	Mrs. T. Kiermeyer.
Poplar	Valley	2,020	26	56.6	− 2.6	90	3	30	25	41	3.99	+ 3.05	1.76	0	7	23	2	5	e.	H. M. Cosier.
Red Lodge	Carbon	5,548	12	50.4	− 1.6	79	1	25	19	41	0.74	− 1.09	0.24	0	7	13	5	12	se.	I. A. Draper.
Renova	Jefferson	4,383	13	51.6	− 3.8	87	1	23	25†	48	1.75	+ 0.47	0.73	0	7	17	5	8	ne.	F. B. Elmer.
Ryegate	Yellowstone	3,640	2	55.2	.....	89	1	25	19†	50	3.03	.....	2.13	.....	7	23	0	7	w.	H. Scherfenberg.
Seville	Teton	3,980	3	46.6	.....	80	1	11	24†	46	4.05	.....	2.00	6.5	8	3	16	11	w.	U. S. Reclamation Service.
Shelby	....do	3,276	.....	51.6	.....	88	1	29	22†	37	5.34	.....	2.43	5.2	7	13	0	17	n.	C. D. Kicher.
Sidney	Dawson		1	55.6	.....	83	3	30	25	37	3.18	.....	1.53	0	11	17	4	9	s.	Fred W. Arndt.
Spokane Ranch	Lewis and Clark		1	.....	.....	.....	.....	.....	.....	.....	1.20	.....	0.46	0.8	7	.....	.....	.....	.....	O. E. Penwell.
Springbrook	Dawson		10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. H. L. Miller.
Stearns	Lewis and Clark	4,500	2	.....	.....	.....	.....	.....	.....	.....	3.62	.....	.....	.....	6	18	3	9	.....	J. W. Hardgrove.
Sunlit Farm	Chouteau			49.6	.....	80	12	22	25	36	5.88	.....	1.68	2.0	13	15	4	11	w.	C. R. Noyes.
Sun River Canyon	Teton			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Reclamation Service.
Three Forks	Gallatin	4,066	1	.....	.....	.....	.....	24	19†	.....	1.34	.....	0.67	0	6	11[c]	12[c]	4[c]	.....	M. S. Carpenter.
Tokna	Dawson	2,050	6	55.2	.....	83	1	29	6	37	3.82	.....	1.60	0	8	17	6	7	sw.	U. S. Reclamation Service.
Trail Creek	Park	6,000	3	.....	.....	.....	.....	.....	.....	.....	1.73	.....	0.36	2.0	7	19	4	7	w.	A. Weidenbauer.
Twin Bridges	Madison	4,650		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. Bushnell.
Utica	Fergus	5,000	17	51.8	− 3.3	78	1	27	25	40	1.02	− 0.25	0.42	1.3	7	22	6	2	w.	P. W. Korell.
Valentine	....do		5	54.2	.....	84	1†	26	25	43	1.71	.....	0.63	0.3	6	16	7	7	w.	B. M. Bean.
Valier	Teton			49.8	.....	86	1	22	23	37	4.27	.....	1.87	6.2	8	20	4	6	e.	H. J. Saunders.
Virginia City	Madison	5,880	23	50.4	− 2.9	79	1	28	18	33	1.63	+ 0.21	0.64	0	6	9	11	10	e.	M. Mailand.
Wall Rock Mountain	Broadwater	5,600	2	.....	.....	.....	.....	.....	.....	.....	1.66	.....	0.95	0	7	13	11	6	nw.	D. L. Doig.
Warm Springs Creek	Madison	7,500	2	.....	.....	.....	.....	.....	.....	.....	2.58	.....	1.13	0.4	7	3	6	21	sw.	M. D. Lytle.
Wheaton	Musselshell			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
White Sulphur Springs	Meagher			50.6	.....	85	1	24	23	42	1.03	.....	0.54	T.	9	2	21	7	.....	P. R. Wild.
Wilder	Fergus			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Rogers.
Wolf Creek	Lewis and Clark	4,000	8	55.3	.....	88	1	27	24	46	2.30	.....	0.83	.....	10	14	11	5	sw.	A. J. Reed.
Woodville	Jefferson	6,376	2	.....	.....	.....	.....	.....	.....	.....	1.19	.....	0.41	0	5	5	23	2	w.	Anna Kinman.

TABLE 1.—*Climatological data for September, 1911. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
North Dakota.																				
Aplin	Oliver		5	56.0	.....	85	1†	30	29	45	2.30	.....	1.05	0	9	12	11	7	w.	J. B. Hagelbarger.
Beach	Billings	2,576	5	56.4	.....	87	2	29	29	44	2.07	.....	1.20	0	8	18	7	5	se.	D. J. Steiner.
Belfield	Stark	2,583	...	...	...	...	...	...	...	...	2.34	.....	1.80	0	10	17	8	5	.....	W. F. Gobius.
Berthold Agency	McLean	2,082	15	55.1	− 3.9	84	1†	28	19	45	1.61	+ 0.35	0.78	0	11	16	5	9	e.	C. L. Hall.
Bismarck	Burleigh	1,674	37	56.5	− 0.6	88	1	34	24	43	2.26	+ 1.07	1.21	0	11	14	4	12	e.	U. S. Weather Bureau.
Broncho	Mercer	.....	4	56.0	.....	82	3	30	26	45	2.62	.....	1.85	0	6	1	26	3	nw.	E. M. Walker.
Buford	Williams	1,944	6	55.1	.....	84	3	30	25	44	3.24	.....	1.45	0	10	9	11	10	e.	J. A. Beisel.
Dickinson	Stark	2,543	19	55.8	− 0.7	89	1	31	25	44	2.63	+ 1.63	2.10	0	7	2	20	8	se.	L. R. Waldron.
Edgeley	Lamoure	1,468	10	56.0	− 1.6	89	2	29	24	43	2.43	+ 0.84	1.00	0	9	8	13	9	nw.	O. A. Thompson.
Epping	Williams	.....	...	...	...	...	...	...	...	...	3.16	.....	0.96	0	11	15	6	9	e.	M. E. Uggen.
Flasher	Morton	.....	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	W. R. Shortridge.
Fullerton	Dickey	1,439	13	56.4	− 0.5	90	1	31	24†	39	2.30	+ 0.21	1.16	0	8	15	6	9	s.	F. O. Alin.
Garrison	McLean	1,901	2	55.0	.....	83	1	33	29	36	1.77	.....	0.87	0	8	12	10	8	se.	G. L. Robinson.
Haley	Bowman	.....	4	57.5	.....	92	1	31	29	46	1.37	.....	0.88	0	5	19	3	8	se.	A. O. Lawrence.
Hettinger	Adams	2,253	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	W. R. Lanxon.
Howard	Divide	2,275	5	53.2	.....	85	3	26	25	45	4.29	.....	1.63	T.	8	8	12	10	se.	C. P. Amsbaugh.
Jamestown	Stutsman	1,390	24	53.2	− 4.0	84	1	31	26	37	2.00	+ 1.32	0.95	0	9	11	11	8	ne.	Thos. Pettigrew.
Lamoine	Kidder	.....	4	55.1	.....	84	1	30	24	39	1.65	.....	0.92	0	7	15	5	10	ne.	E. V. Virgin.
McHenry	Foster	.....	2	53.9	.....	81	1	30	29	37	1.26	.....	0.35	0	7	12	11	7	se.	John Knox.
Marmarth	Bowman	.....	4	...	...	...	...	...	...	...	1.85	.....	0.62	0	5	15	4	11	w.	S. P. Grane.
Marstonmoor	Stutsman	.....	4	...	...	80	1	...	...	...	1.03	.....	0.63	T.	3	9	13	8	ne.	H. H. McCumber.
Medora	Billings	2,225	15	58.0	− 0.8	90	1†	32	25	53	1.66	+ 0.90	1.58	0	3	15	6	9	ne.	J. W. Hesser.
Melville	Foster	1,590	14	57.2	− 1.6	87	16	30	28	45	1.73	+ 0.57	0.65	0	6	...	...	...	nw.	J. P. Kidder.
Mott	Hettinger	.....	5	57.0	.....	92	1	32	29	41	1.82	.....	0.81	0	7	12	9	9	e.†	O. H. Opland.
Napoleon	Logan	1,955	20	55.7	− 1.1	92	1	29	24	41	1.28	+ 0.11	0.53	0	10	9	5	16	se.	C. J. Hoof.
New England	Hettinger	2,400	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	J. L. McGovern.
New Rockford	Eddy	1,531	2	...	...	...	...	...	...	...	2.77	.....	1.90	0	7	...	...	...	...	J. V. M. Sundberg.
New Salem	Morton	2,163	5	55.8	.....	88	1	34	19†	43	4.98	.....	2.72	0	11	7	11	12	nw.	J. Christiansen.
Orange	Adams	.....	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	J. E. Goforth.
Schafer	McKenzie	.....	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Lundin Bros.
Steele	Kidder	1,857	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	B. C. Smith.
Washburn	McLean	1,731	8	56.0	.....	86	1	36	19†	36	2.71	.....	0.93	0	8	15	9	6	w.	W. R. Peterson.
Williston	Williams	1,875	32	54.3	− 5.2	83	3	30	25	36	2.25	+ 1.34	0.62	0	12	10	8	12	se.	U. S. Weather Bureau.
South Dakota.																				
Aberdeen	Brown	1,300	21	58.8	− 0.3	93[a]	1	33	24	44	2.79	+ 0.98	1.00	0	11	17	1	12	s.	D. G. Gallett.
Academy	Charles Mix	.....	12	64.7	+ 1.3	94	1	38	19	44	2.81	+ 1.31	1.08	0	10	13	12	5	w.	I. T. Lothrop.
Alexandria	Hanson	1,352	22	64.4	+ 2.6	97	2	33	19	46	2.41	+ 0.03	0.90	0	8	18	3	9	nw.	Albert Hill.
Ardmore	Fall River	3,557	2	...	...	...	...	...	...	...	0.63	.....	0.53	0	2	15	2	13	.....	C., B. & Q. R. R. Co.
Armour	Douglas	1,521	15	67.0	+ 4.1	97[a]	1	30[b]	19	50[b]	1.50	− 0.62	0.80	0	5	20	4	6	.....	T. J. Markey.
Bellefourche	Butte	3,000	3	60.2	.....	93	1	29	19	53	0.78	.....	0.33	0	4	11	9	10	se.	U. S. Reclamation Service.
Brookings	Brookings	1,636	22	61.0	+ 1.3	89	1	34	19	42	3.08	+ 1.04	0.87	0	10	7	11	12	nw.	Experiment Station.
Camp Crook	Harding	3,000	19	59.4	+ 0.4	88	2	30	29	49	1.10	+ 0.02	0.57	0	6	19	6	5	nw.	U. S. Forest Service.
Canton	Lincoln	1,248	16	64.3	+ 2.5	100	1	38	21†	46	1.93	− 0.57	0.92	0	5	16	10	4	se.	John H. Holsey.
Cascade Springs	Fall River	3,422	3	62.0	.....	91	12	30	19	50	1.42	.....	1.08	0	5	16	8	6	w.	Fred Noerenberg.
Castlewood	Hamlin	1,685	5	58.9	.....	90	1	30	19	42	2.56	.....	1.08	0	10	8	7	15	s.	M. N. Bradley.
Centerville	Turner	1,229	14	63.8	.....	98	1	32	19	42	1.72	− 1.08	0.79	0	6	5	20	5	se.	Frank Williams.
Clark	Clark	1,779	17	59.5	+ 0.2	91	1	32	19	40	2.18	− 0.27	1.42	0	6	14	12	4	nw.	O. H. La Craft.
Cottonwood	Stanley	2,414	3	63.7	.....	95	1	37	19†	44	3.59	.....	3.20	0	6	13	12	5	se.	Experiment Station.
Custer	Custer	5,316	...	...	...	...	...	...	...	...	0.85	.....	0.65	0	3	2	12	16	w.	R. P. Imes.
Daviston	Perkins	.....	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	G. G. Davis.
Deadwood	Lawrence	4,535	2	57.3	.....	91	14	32	19†	50	1.10	.....	0.55	0	3	19	8	3	.....	R. E. Grimshaw.
Deerfield	Pennington	6,000	2	...	...	...	...	...	...	...	0.55	.....	0.23	0	7	12	13	5	sw.	Frank E. Miller.
De Smet	Kingsbury	1,726	18	...	...	...	...	...	...	...	3.88	+ 2.03	1.40	0	8	...	...	...	...	J. O. Purinton.
Dowling	Stanley	2,250	2	62.4	.....	96	1	38	19	42	2.45	.....	1.85	0	4	15	7	8	se.	M. P. Dowling.
Dumont	Lawrence	6,195	2	...	...	...	...	...	...	...	0.45	.....	0.21	0	3	17	10	3	sw.	A. B. Wood.
Eales	Potter	.....	...	...	...	...	...	...	...	...	1.64	.....	0.80	0	5	11	13	6	se.	A. H. Peterson.
Edson	Perkins	.....	...	59.8	.....	96	1†	38	19	41	1.06	.....	0.60	0	5	18	4	8	se.	J. C. Stoner.
Elk Mountain	Custer	4,700	2	...	...	...	...	...	...	...	0.53	.....	0.32	0	5	13	13	4	se.	James E. Blaine.
Ellingson	Perkins	.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	A. C. Ellingson.
Englewood	Lawrence	5,723	2	...	...	...	...	...	...	...	1.30	.....	0.70	0	3	25	1	4	s.	T. J. Cummins.
Eureka	McPherson	1,884	2	59.0	.....	92	1	32	18†	42	1.15	.....	0.74	0	5	4	21	5	se.	Experiment Station.
Fairfax	Gregory	.....	7	65.7	.....	94	1	37	19	43	1.37	.....	0.38	0	7	13	14	3	s.	U. G. Stevenson.
Faulkton	Faulk	1,505	16	60.2	+ 0.1	94	1	32	24	42	2.36	+ 0.97	1.38	0	8	17	6	7	ne.	Miss Belle Talcott.
Flandreau	Moody	1,565	21	61.0	− 0.2	96	1	37	19	42	4.55	+ 2.41	1.40	0	7	4	15	11	n.	W. A. Harris.
Forestburg	Sanborn	1,231	19	62.8	+ 0.6	95	1†	31	19	48	2.54	+ 0.82	0.65	0	10	13	11	6	se.	S. S. Judy.
Frederick	Brown	1,371	3	...	...	...	...	...	...	...	2.13	.....	1.72	0	3	...	...	...	...	J. E. Jeffers.
Gannvalley	Buffalo	.....	13	64.1	+ 1.0	95	1	32	19	44	3.55	+ 2.25	1.10	0	7	11	9	10	se.	A. L. Hanson.
Greenmont	Lawrence	6,430	2	...	...	...	...	...	...	...	1.50	.....	0.55	0	5	19	7	4	s.	H. C. Hoffbuhr.
Greenwood	Charles Mix	.....	17	67.4	+ 2.0	98	1	36	19	43	1.74	− 0.37	0.60	0	7	18	9	3	nw.	T. C. Williamson.
Hardy Ranger Station	Lawrence	6,600	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Mrs. E. A. Gundlach.
Harveys Ranch	....do	6,282	1	...	...	...	...	...	...	...	0.40	.....	0.20	0	2	14	7	9	nw.	Jerome Harvey.
Hermosa	Custer	3,278	5	60.8	.....	92[a]	1	27[a]	17	53[a]	1.34	.....	1.18	0	3	16	10	4	.....	S. M. Booth.
Highmore	Hyde	1,890	15	61.0	− 2.3	95	1	34	19†	43	3.06	+ 1.69	1.85	0	8	14	8	8	se.	Experiment Station.
Hopewell	Stanley	.....	1	63.8	.....	98	1	40	19	40	3.07	.....	2.10	0	3	15	7	8	s.	E. R. Myers.
Howard	Miner	1,564	19	58.1[f]	− 3.6	94[f]	1	31[f]	19	43[f]	3.53	+ 1.39	1.26	0	10	...	...	...	...	J. J. Cox.
Howell	Hand	.....	9	59.8	.....	97	1	32	24	45	2.95	.....	1.83	0	12	14	10	6	se.	M. A. Shuster, jr.
Huron	Beadle	1,306	29	61.0	+ 1.4	93	1	34	19	40	2.10	+ 0.41	1.28	0	8	6	14	10	se.	U. S. Weather Bureau.
Ipswich	Edmunds	1,530	14	58.2	+ 0.6	95	1	31	24	42	3.65	+ 1.86	1.50	0	5	14	10	6	se.	J. B. Taylor.
Kadoka	Stanley	2,467	2	63.1	.....	94[a]	1	38[a]	29	40	1.80	.....	1.00	0	4	6	14	10	nw.	Rev. D. S. Brown.
Kennebec	Lyman	1,689	18	63.7	+ 0.9	94	1	35[c]	19†	45[c]	2.86	+ 1.99	1.30	0	9	17	7	6	.....	R. C. Van Horn.
Kidder	Marshall	1,295	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	H. C. Schussler.
Kimball	Brule	1,788	22	62.2	+ 0.1	91	1	35	26	43	3.35	+ 2.10	0.88	0	11	19	5	6	se.	G. D. Rose.
La Creek	Bennett	.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Walter E. Baker.
La Delle	Spink	1,400	14	58.0	− 3.4	84	2	31	20	35	2.86	+ 0.37	2.20	0	5	13	8	9	se.	E. L. Ebbert.
Lead	Lawrence	5,200	2	58.7	.....	85	1	35	23	39	1.00	.....	0.57	0	4	15	10	5	se.	E. F. Irwin.
Lemmon	Perkins	2,345	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	O. C. Olsen.
Manderson	Shannon	.....	...	63.6[c]	.....	92[c]	12†	33[c]	21	51[d]	1.48	.....	0.54	0	8	12	15	3	s.	W. A. Spencer.
Marion	Turner	1,447	10	63.6	+ 0.5	94	1	36	19	38	3.36	+ 0.38	0.98	0	8	8	17	5	se.	M. H. Dains.
Marston	Sully	.....	3	59.8	.....	96	1	32	19	47	2.95	.....	1.48	0	5	17	6	7	se.	John S. Walker.
Mellette	Spink	1,300	16	60.4	− 1.0	93	1	32	19†	43	2.51	+ 0.86	1.19	0	11	10	10	10	s.	Frank A. Howe.
Menno	Hutchinson	1,325	14	64.4	+ 1.2	97	1	34	19	42	1.90	− 0.48	0.72	0	6	10	5	15	se.	J. H. Swanton.
Milbank	Grant	1,148	20	57.9	− 2.9	91	1	35	24†	42	3.19	+ 1.40	0.92	0	10	12	4	14	se.	I. T. Patridge.
Mitchell	Davison	1,312	17	62.0	− 0.2	90[a]	1†	37	19	39[a]	3.19	+ 1.10	1.08	0	10	13	12	5	s.	C. W. Downey.
Mobridge	Walworth	.....	...	64.6	.....	93	3	38	20	46	1.51	.....	1.25	0	3	16	4	10	ne.	Thos. J. Morris.

TABLE 1.—*Climatological data for September, 1911. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
South Dakota—Contd.																				
Murdo	Lyman	2,300	3	64.4	.....	93	22	40	18†	38	2.20	.....	1.00	0	4	21	3	6	e.	L. C. Bode.
Oelrichs	Fall River	3,339	19	63.8	+ 3.2	98	12	30	19	54	1.39	+ 0.34	1.22	0	2	16	13	1	w.	J. E. Strouse.
Onaka	Faulk	1,600		.....	.....	.....	.....	.....	.....	.....	3.35	.....	1.43	0	11	15	10	5	.....	H. P. Camp.
Orman	Butte	2,920	5	62.2	.....	92	1†	35	19	46	0.74	.....	0.33	0	4	9	17	4	e.	U. S. Reclamation Service.
Ottumwa	Stanley	.....	3	65.3	.....	100[b]	12	35[b]	19	49[b]	2.34	.....	1.54	0	5	10	10	10	se.	J. W. Bretz.
Parkston	Hutchinson	1,400		.....	.....	.....	.....	.....	.....	.....	2.55	.....	0.65	0	8	15	5	10	se.	W. C. Kempfer.
Pierre	Hughes	1,572	19	63.4	+ 0.6	96	1	41	19	39	2.79	+ 1.68	1.57	0	10	10	12	8	se.	U. S. Weather Bureau.
Plankinton	Aurora	1,528	17	.....	.....	.....	.....	.....	.....	.....	2.19	+ 0.29	0.96	0	9	11	14	5	se.	W. G. Andrews.
Pollock	Campbell	.....	5	58.1	.....	92[a]	1	27	19	52[a]	1.73	.....	1.12	0	7	12	8	10	.....	J. H. Jones.
Rapid City	Pennington	3,251	23	60.9	+ 1.3	89	1	37	18	40	0.92	− 0.34	0.76	0	7	13	7	10	w.	U. S. Weather Bureau.
Redfield	Spink	1,295	13	59.5	+ 0.4	92	1	34	24	49	2.23	+ 0.23	1.15	0	8	15	3	12	s.	A. S. Hall.
Rochford	Pennington	5,228	1	.....	.....	.....	.....	.....	.....	.....	0.44	.....	0.23	0	3	16	9	5	sw.	Mrs. M. E. Deffenbaugh.
Rosebud	Todd	2,600	17	59.5[c]	− 2.7	89[c]	22	33[c]	19	43[c]	1.87	+ 0.94	1.00	0	6	.....	.....	.....	sw.	W. M. Ege.
Rosebud Agency	....do	2,600		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. W. Soldier.
Roslyn	Day	.....	5	58.1	.....	87	1	35	19	37	3.40	.....	1.55	0	5	7	17	6	ne.	O. O. Floren.
Selby	Walworth	.....	3	59.4	.....	91	1	32	24	40	1.49	.....	1.10	0	4	12	14	4	nw.	Miss Gertrude Hall.
Sioux Falls	Minnehaha	1,400	20	61.2	− 1.3	87	15	38	19	40	3.22	+ 1.10	2.40	0	6	7	5	18	s.	J. H. Bechtold.
Sorum	Harding	.....		59.1	.....	94	26	32	19	50	1.05	.....	0.63	0	4	18	6	6	se.	M. S. Eberhart.
Spearfish	Lawrence	3,647	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. E. Johnson.
Stephan	Hyde	1,840	7	59.8	.....	93	1	32	19	43	3.61	.....	1.58	0	8	10	13	7	se.	Rev. A. Mattingly.
Tama	Meade	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. J. Daly.
Tyndall	Bonhomme	1,418	14	65.6	+ 1.2	99	1	36	19	40	2.25	+ 0.63	0.68	0	9	14	9	7	.....	F. F. Chladek.
Vale	Butte	2,765	3	62.3	− 0.2	93[b]	1	32[b]	20	50[b]	0.97	− 0.96	0.65	0	5	16	10	4	nw.	U. S. Reclamation Service.
Vermilion	Clay	1,222	10	67.0	+ 2.9	100	1	37	19	39	1.51	− 2.86	0.57	0	6	16	7	7	s.	Prof. E. C. Perisho.
Waters Ranch	Lawrence	4,000	1	.....	.....	.....	.....	.....	.....	.....	1.08	.....	0.71	0	6	14	9	7	ne.	George Waters.
Watertown	Codington	1,735	17	57.8	− 0.9	91	1	33	19†	42	1.85	+ 0.03	1.32	0	4	11	10	9	s.	Robert Q. Wood.
Wentworth	Lake	.....	18	60.1	− 0.9	91	1	38	19	36	5.95	+ 3.53	1.76	0	10	18	6	6	se.	R. C. Zimmerman.
Wessington Springs	Jerauld	1,410	11	63.6	+ 0.6	91	1	35	24	41	2.58	+ 1.57	0.72	0	10	10	11	9	s.	Mrs. N. J. Dunham.
White Lake	Aurora	1,646	2	.....	.....	.....	.....	.....	.....	.....	2.58	.....	0.85	0	9	12	15	3	s.	Mrs. G. A. Rogers.
Winner	Tripp	2,500		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. L. Rawson.
Yankton	Yankton	1,234	37	65.5	+ 2.2	98	1	40	19	37	2.28	− 0.17	0.81	0	8	2	20	8	ne.	U. S. Weather Bureau.
Minnesota.																				
Pipestone	Pipestone	1,710	11	60.4	+0.8	91	1	31	28	34	4.58	+ 1.88	1.10	0	12	7	15	8	se.	W. S. Campbell.
Colorado.																				
Akron	Washington	4,650	9	.....	.....	.....	.....	.....	.....	.....	2.10	.....	1.70	0	2	.....	.....	.....	.....	Ira M. Barnhouse.
Albion Lake	Boulder	.....		.....	.....	.....	.....	.....	.....	.....	2.69	.....	0.73	1.5	12	9	18	3	e.	Fred R. Dungan.
Alma	Park	10,238	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Anna B. Osborne.
Arriba (near)	Lincoln	5,238	5	67.1	.....	92	12	41	19†	50	3.84	+ 1.93	3.40	0	3	20	8	2	sw.	C. A. Creel.
Auldhurst	Teller	8,500	1	.....	.....	.....	.....	.....	.....	.....	1.07	.....	0.55	.....	5	15	9	6	s.	Mrs. Alice A. Auld.
Bennet (near)	Arapahoe	.....		.....	.....	.....	.....	.....	.....	.....	0.44	.....	0.27	0	2	.....	.....	.....	se-sw.	J. F. Egelhoff.
Boulder	Boulder	5,347	15	64.4	+ 1.0	92	12	38	19	42	0.26	− 1.50	0.21	0	4	18	10	2	.....	O. H. Wangelin.
Burlington	Kit Carson	4,160	8	68.8	.....	98	1†	45	19†	43	1.86	.....	1.02	0	5	15	13	2	se.	W. P. Davis.
Cassells	Park	8,445	1	.....	.....	.....	.....	.....	.....	.....	1.40	.....	0.27	.....	7	17	7	6	w.	Harriet M. Cassell.
Castle Rock	Douglas	6,220	19	63.5	+ 3.8	92	13	31	18†	49	0.95	− 0.19	0.53	.....	6	6	5	19	.....	Thos. P. Vaughan.
Cheesman	Jefferson	6,890	8	61.2	.....	84	11	39	18	40	1.10	.....	0.75	.....	4	15	15	0	sw.	J. G. Thornburg.
Cheyenne Wells	Cheyenne	4,279	17	68.8	+ 4.2	97	12	44	21	43	0.44	− 0.96	0.20	0	6	21	8	1	s.	J. W. Adams.
Cope	Washington	.....	14	63.0[e]	− 1.8	93[e]	12	31[e]	22	59[e]	3.87	+ 2.77	1.75	.....	5	.....	.....	.....	.....	A. A. Williams.
Corona	Grand	11,660	4	41.2	.....	58	5†	23	21	28	2.20	.....	0.48	0	8	.....	.....	.....	w.	U. S. Weather Bureau.
Denver	Denver	5,272	39	66.2	+ 3.5	94	12	41	18	38	0.75	− 0.14	0.27	T.	8	12	14	4	s.	Do.
Edgewater	Jefferson	5,450	3	65.0	.....	95	12	35	21	50	0.63	.....	0.20	.....	6	21	5	4	.....	Dr. N. P. Levin.
Estes Park Fish Hatchery.	Larimer	8,000	2	.....	.....	.....	.....	.....	.....	.....	0.54	.....	0.22	T.	4	4	14	12	w.	G. H. Thomson.
Fort Collins	....do	4,985	29	61.8	+ 2.2	89	11	32	21	49	0.80	− 0.43	0.61	0	3	13	14	3	nw.	Colo. Agri. College.
Fort Lupton	Weld	4,907		.....	.....	.....	.....	.....	.....	.....	0.18	.....	0.10	0	2	.....	.....	.....	.....	R. W. Benedict.
Fort Morgan	Morgan	4,319	13	65.6	+ 2.4	100	12	32	21	58	0.29	− 0.61	0.12		3	19	9	2	se.	Della M. Scott.
Frances	Boulder	9,300	6	54.6	.....	82	12	32	7†	36	0.81	.....	0.25	T.	6	.....	.....	.....	.....	C. W. Barry.
Frys Ranch	Larimer	7,500	1	54.4	.....	82	11	28	19	46	0.64	.....	0.19		5	14	15	1	w.	Norman W. Fry.
Georgetown	Clear Creek	8,550	9	.....	.....	.....	.....	.....	.....	.....	1.24	+ 0.33	0.30	.....	10	4	24	2	.....	H. L. Corbett.
Greeley	Weld	4,649	20	63.6	+ 2.1	95	12	32	21	49	0.17	− 0.63	0.08	.....	3	19	8	3	n.	Nelson Reynolds.
Grover	....do	5,076		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George M. Blake.
Hartsel	Park	7,670	2	.....	.....	.....	.....	.....	.....	.....	1.39	.....	0.61	.....	7	18	5	7	.....	Emily Kleinknecht.
Hawthorne	Boulder	6,000	2	.....	.....	.....	.....	.....	.....	.....	0.41	.....	0.14	.....	5	19	10	1	.....	B. E. Chesebro.
Holyoke (near)	Phillips	3,745	15	.....	.....	.....	.....	.....	.....	.....	0.73	− 0.43	0.44	.....	3	19	7	4	se.	A. C. Cauble.
Idaho Springs	Clear Creek	7,534	11	58.4	+ 2.3	82	12	31	18	37	0.86	− 0.38	0.25	.....	6	5	23	2	w.	J. J. Willis.
Keota	Weld	4,966		.....	.....	.....	.....	.....	.....	.....	1.11	.....	1.06	.....	2	17	9	4	s.	I. S. Griffin.
Laporte	Larimer	5,053	20	.....	.....	.....	.....	.....	.....	.....	0.37	− 0.90	0.20	.....	3	.....	.....	.....	.....	P. A. Taft.
Leroy (near)	Logan	4,380	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Green.
Longmont	Boulder	4,980	10	64.5	+ 3.7	95	11	32	18†	54	0.79	+ 0.03	0.60	0	6	17	10	3	w.	Great Western Sugar Co.
Longs Peak (near)	Larimer	8,600	16	50.6	+ 1.7	78	11	22	7	44	0.96	− 0.74	0.30	.....	11	17	9	4	n.	Enos A. Mills.
Lula Pass	....do	.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. McCahan.
Moraine Park	....do	7,775	21	54.4	+ 1.6	79	11	22	19	47	0.74	− 0.58	0.29	0	5	19	0	11	w.	J. D. Stead.
Platte Canon	Jefferson	5,492	12	.....	.....	.....	.....	.....	.....	.....	0.23	− 1.04	0.15	.....	2	17	12	1	w.	Denver Union Water Co.
St. Cloud	Larimer	7,750	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Guilla Sivers.
Sedgwick	Sedgwick	3,573	3	65.0	.....	94	22†	31	21	59	0.67	.....	0.43	0	3	15	15	0	se.	Edwin Lewis, M. D.
Sill Mine	Clear Creek	11,500	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. F. Deininger.
Spicer (near)	Larimer	8,700	1	.....	.....	.....	.....	.....	.....	.....	0.96	.....	0.32	.....	5	12	8	10	sw.	Frank W. Murphy.
Sterling	Logan	3,892	2	65.2	.....	98	13	34	18†	51	1.13	.....	0.60	0	3	13	11	6	se.	Great Western Sugar Co.
Waterdale	Larimer	5,206	8	64.4	.....	96	10	33	19	50	0.27	.....	0.09	0	5	.....	.....	.....	.....	P. H. Boothroyd.
Wray	Yuma	3,512	15	68.8	+ 4.1	100	12	43	24	46	0.91	− 0.44	0.49	0	5	15	13	2	e.	J. C. Toumey.
Yuma	....do	4,138	20	.....	.....	.....	.....	.....	.....	.....	1.30	+ 0.33	0.90	0	5	16	10	4	s.	Matthew Harr.
Nebraska.																				
Ainsworth	Brown	2,521	6	64.8	.....	89	14	40	19	35	2.81	.....	0.65	0	11	2	20	8	sw.	John M. Cotton.
Albion	Boone	1,747	14	66.6[e]	+ 4.1	103	1	33	19	50[d]	2.52	− 0.01	1.17	0	8	.....	.....	.....	n.	F. M. Weltzel.
Alliance	Boxbutte	3,968	17	63.4	+ 1.9	91	5	32	21	52	0.80	+ 0.02	0.55	0	2	15	13	2	sw.	J. A. Keegan.
Alma	Harlan	1,939	16	70.7	+ 4.1	104	13	39	19	45[a]	1.38	− 0.97	0.46	0	9	17	8	5	s.	W. A. Sharpnack.
Anoka	Boyd	.....	6	65.0[j]	.....	98[j]	1	41[j]	24	45[j]	1.27	.....	0.55	0	5	.....	.....	.....	.....	W. Whitla.
Arcadia	Valley	2,186	13	.....	.....	.....	.....	.....	.....	.....	1.93	− 0.76	1.05	0	5	4	18	8	se.	J. L. Owen.
Arden	Boone	.....	1	.....	.....	.....	.....	.....	.....	.....	2.50	.....	1.60	0	10	1	27	2	se.	A. E. Johns.
Ashland	Saunders	1,100	29	70.4	+ 3.1	97	5†	41	19	38	1.84	− 1.05	0.95	0	9	11	15	4	ne.	Dr. A. S. von Mansfelde.
Ashton	Sherman	2,061	19	.....	.....	.....	.....	.....	.....	.....	2.22	− 0.21	0.77	0	9	15	5	10	se.	F. Rein.

TABLE 1.—*Climatological data for September, 1911. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Nebraska—Continued.																				
Atkinson	Holt	2,108	6	64.8	.....	99	1	34	19	42	1.56	.....	0.90	0	6	8	10	12	ne.	C. J. Wilson.
Auburn	Nemaha	1,051	19	69.3	+ 2.2	99	1	39	19	38	3.87	+ 0.59	1.10	0	10	16	7	7	s.	J. R. Huffman.
Aurora	Hamilton	1,792	19	72.5	+ 5.1	98	1†	40	19	42[a]	3.95	+ 0.52	1.85	0	7	21	0	9	nw.	C., B. & Q. R. R. Co.
Beatrice	Gage	1,235	22	70.8	+ 3.5	93	1†	40	18	47	4.75	+ 1.84	1.70	0	8	17	4	9	sw.	W. S. Waxham.
Beaver City	Furnas	2,147	21	70.0	+ 2.4	101	13	40	18	42	1.33	− 0.52	0.28	0	6	11	15	4	se.	T. M. Davis.
Bellevue	Sarpy	1,210	30	70.8	.....	97	1	43	21	33	3.05	− 0.43	2.15	0	7	16	4	10	se.	A. A. Tyler.
Benkelman	Dundy	2,968	16	.....	.....	.....	.....	.....	.....	.....	1.40	− 0.29	0.50	0	3	6	20	4	se.	R. D. Druliner.
Bertrand	Phelps	2,515	4	.....	.....	.....	.....	.....	.....	.....	1.98	.....	0.93	0	9	16	12	2	se.	W. F. Dobbin.
Blair	Washington	1,122	16	68.7	+ 3.9	100	1	39	19	40	1.17	− 2.10	0.55	0	8	16	7	7	sw.	D. C. Van Deusen.
Bloomfield	Knox	.....	5	66.4	.....	97	1	31	19	42	1.63	.....	0.90	0	4	8	20	2	ne.	Dr. L. C. Bleick.
Bradshaw	York	1,715	13	.....	.....	.....	.....	.....	.....	.....	7.21	+ 2.44	2.77	0	8	14	13	3	.....	E. C. Roggy.
Bridgeport	Morrill	3,658	15	65.4[d]	+ 3.2	99	12	30	21	60[d]	0.15	− 0.87	0.15	0	1	.....	.....	.....	se.	R. H. Willis.
Broken Bow	Custer	2,477	17	64.6	+ 1.4	98	1	30	19	44	2.25	+ 0.03	0.81	0	10	10	2	18	se.	C., B. & Q. R. R. Co.
Bruning	Thayer	1,583	1	.....	.....	.....	.....	.....	.....	.....	2.70	.....	1.10	0	8	.....	.....	.....	se.	Henry Middendorf.
Burge	Cherry	2,674	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Davis.
Cairo	Hall	1,951	3	.....	.....	.....	.....	.....	.....	.....	0.96	.....	0.55	0	4	.....	.....	.....	.....	Elliott Harrison.
Callaway	Custer	2,555	16	69.1	+ 6.6	100	1	32	19	45[b]	2.58	+ 0.56	0.73	0	5	.....	.....	.....	se.	J. H. Evans.
Cambridge	Furnas	2,258	5	70.9	.....	106	13	37	21	48	0.54	.....	0.20	0	6	11	10	9	ne.	Chas. Jensen.
Canton (near)	Sioux	.....	3	62.1	.....	94	12†	26	19	57[b]	0.99	.....	0.60	0	3	.....	.....	.....	se.	A. E. Hann.
Columbus	Platte	1,442	19	67.0	+ 2.5	99	1	38	19	44	0.79	− 2.05	0.30	0	6	11	1	18	se.	A. L. Rush.
Cozad	Dawson	2,496	3	.....	.....	.....	.....	.....	.....	.....	2.33	.....	0.88	0	8	15	12	3	s.	A. A. Luttin.
Creighton	Knox	1,600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. L. Cherry.
Crete	Saline	1,368	28	70.6	+ 4.2	95	1†	42	19	37	3.80	+ 1.20	1.15	0	6	12	6	12	s.	Doane College.
Culbertson	Hitchcock	2,565	25	66.5	.....	101	13	30	21	58	0.63	− 0.85	0.28	0	5	9	2	19	se.	J. H. Corrick.
Curtis	Frontier	2,553	15	69.9	+ 4.5	96	13†	37	19	44	3.79	+ 1.46	3.00	0	7	11	15	4	ne.	Dr. S. R. Razee.
David City	Butler	1,619	24	69.0	+ 5.0	98	1	43	19	33	1.83	− 0.75	0.55	0	10	9	13	8	se.	S. Clingman.
Dawson	Richardson	945	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. E. I. Atkinson.
Dubois	Pawnee	1,074	7	.....	.....	.....	.....	.....	.....	.....	5.29	.....	2.08	0	12	10	12	8	se.	O. M. Backus.
Dumas	Garfield	.....	4	.....	.....	98	1	.....	.....	.....	2.00	.....	0.96	0	7	21	1	8	s.	J. M. Kenney.
Ellis	Gage	1,430	6	.....	.....	.....	.....	.....	.....	.....	3.15	.....	2.10	0	3	.....	.....	.....	.....	D. J. Wood.
Elmcreek	Buffalo	2,268	4	.....	.....	.....	.....	.....	.....	.....	3.94	.....	2.70	0	7	.....	.....	.....	.....	E. L. Sutton.
Elsie	Perkins	3,382	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Brittain.
Ericson	Wheeler	2,029	20	.....	.....	.....	.....	.....	.....	.....	1.42	− 0.81	0.47	0	6	.....	.....	.....	s.	J. A. Bodyfield.
Ewing	Holt	1 888	21	67.6	.....	103	1	29	19	51	1.28	− 0.86	0.32	0	9	.....	.....	.....	.....	G. H. Benson.
Fairbury	Jefferson	1,316	36	71.2	+ 3.7	98	13	39	19	41	6.33	+ 3.48	2.90	0	9	9	14	7	se.	W. F. Cramb.
Fairmont	Fillmore	1,641	18	67.3	+ 1.6	95	1	37	19	40	2.93	+ 0.05	0.69	0	8	11	3	16	s.	C., B. & Q. R. R. Co.
Fort Robinson	Dawes	3,764	28	60.0	− 0.9	91	12	29	19†	50	0.76	− 0.32	0.29	0	6	12	4	14	n.	Post Surgeon.
Franklin	Franklin	1,820	19	70.8	+ 3.9	103	13	34	19	47	1.75	− 0.78	0.79	0	7	12	9	9	se.	A. R. Peck.
Fremont	Dodge	1,203	31	70.0	+ 4.9	102	1	40	21	46	1.10	− 1.73	0.44	0	7	10	10	10	se.	Ernest Hahn.
Fullerton	Nance	1,629	10	67.2	.....	102	1	37	19	48	8.01	+ 4.34	6.18	0	4	16	11	3	nw.	Dr. F. W. Johnson.
Geneva	Fillmore	1,633	22	70.4	+ 4.1	97	17	40	19	38	5.80	+ 2.96	3.70	0	6	13	8	9	se.	F. M. Flory.
Genoa	Nance	1,584	36	68.4	+ 4.0	99	1	36	21	43	3.17	+ 0.10	1.50	0	8	13	11	6	se.	F. W. Parsons.
Gordon	Cherry	3,550	10	.....	.....	.....	.....	.....	.....	.....	1.23	+ 0.38	0.84	0	3	.....	.....	.....	.....	G. F. Williams.
Gosper	Gosper	.....	9	.....	.....	.....	.....	.....	.....	.....	3.70	.....	2.50	0	10	7	16	7	se.	E. H. Stoll.
Gothenburg	Dawson	2,557	18	67.8	+ 2.9	98	1†	38	19	43	3.50	+ 1.44	1.60	0	7	14	3	13	se.	Dr. W. J. Bartholomew.
Grand Island	Hall	1,860	20	68.2	+ 2.7	94	1†	39	19	36	5.54	+ 2.74	3.34	0	8	8	10	12	s.	E. A. Barnes.
Grant	Perkins	3,405	8	67.0	.....	100	12	35	19	53[a]	0.81	.....	0.48	0	6	13	12	5	se.	Cyrus Carver.
Greeley	Greeley	2,021	18	66.8	.....	98	1	32	19	40	0.73	− 1.27	0.32	0	6	1	25	4	se.	W. E. Morgan.
Guiderock	Webster	1,646	12	.....	.....	.....	.....	.....	.....	.....	3.32	− 0.25	1.22	0	6	7	15	8	.....	J. S. Marsh.
Halsey	Thomas	2,695	9	69.0	.....	100	13	38	19	46	0.80	.....	0.30	0	6	18	5	7	e.	U. S. Forest Service.
Hartington	Cedar	1,309	21	65.1	+ 2.3	99	1	37	19	42	0.85	− 1.93	0.38	0	4	10	4	16	se.	D. E. Ewing.
Harvard	Clay	1,812	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. I. T. Fleming.
Hastings	Adams	1,932	22	67.6	+ 2.1	99	13	42	19	38	3.63	+ 0.86	1.17	0	8	18	10	2	se.	C. B. & Q. R. R. Co.
Hayes Center	Hayes	.....	17	69.5	.....	103	1	42	19	45	1.34	− 0.51	0.48	0	8	11	17	2	se.	C. A. Ready.
Hay Springs	Sheridan	3.821	26	62.6	+ 2.7	94	12	30	30	51	1.15	+ 0.13	0.80	0	3	8	15	7	se.	A. Kadlecek.
Hebron	Thayer	1,458	26	70.5	+ 3.7	99	13	37	19	39	2.40	− 0.31	1.42	0	9	.....	.....	.....	.....	Dr. C. M. Easton.
Hemingford	Boxbutte	4,256	2	.....	.....	.....	.....	.....	.....	.....	1.07	.....	0.68	0	5	.....	.....	.....	.....	A. S. Enyeart.
Hendley	Furnas	2,231	6	.....	.....	.....	.....	.....	.....	.....	0.87	.....	0.30	0	4	.....	.....	.....	.....	T. L. Jones.
Hillside	McPherson	3,484	3	65.8	.....	99	12	26	19	59	1.12	.....	0.42	0	9	17	6	7	se.	Mrs. M. R. Lloyd.
Holdrege	Phelps	2,324	20	70.3	+ 2.6	104	13	43	19	42	0.96	− 1.14	0.52	0	5	14	3	13	se.	C. B. & Q. R. R. Co.
Hooper	Dodge	1,228	14	68.8	+ 4.7	101	1	32	19	67	2.47	− 1.33	.....	0	.....	.....	.....	.....	nw.	Dr. W. H. Heine.
Hull (near)	Banner	.....	1	.....	.....	.....	.....	.....	.....	.....	0.71	.....	0.71	0	1	11	8	11	se.	Mrs. W. P. Miller.
Imperial	Chase	3,278	21	68.8	+ 3.7	101	1	37	19	51	1.44	+ 0.09	0.76	0	6	11	14	5	se.	Robt. Malcolm.
Kearney	Buffalo	2,146	24	69.0	+ 1.6	98	13	37	19	39	3.29	+ 0.53	1.92	0	4	11	13	6	e.	City Engineer.
Kimball	Kimball	4,997	22	65.4	+ 4.2	96	11†	33	17	44	1.42	+ 0.45	0.85	0	4	17	12	1	w.	F. J. Bellows.
Kirkwood	Rock	.....	16	65.8	+ 2.9	96	e1†	32	19	47[a]	1.46	− 0.84	0.67	0	6	.....	.....	.....	sw.	Mrs. C. Arter.
Kowanda	Denell	.....	3	.....	.....	.....	.....	.....	.....	.....	0.50	.....	0.31	0	3	.....	.....	.....	.....	Geo. W. Hulse.
Lamar	Chase	.....	1	66.3	.....	97	12	40	21	47	0.86	.....	0.50	0	6	21	4	5	se.	R. L. McGanghey.
Lexington	Dawson	2,385	22	69.0	+ 5.0	97	1†	36	19	43	1.84	− 0.22	0.55	0	7	21	0	9	se.	Robt. Chadwick.
Lincoln	Lancaster	1,189	30	69.7	+ 4.5	97	1	43	19	35	4.84	+ 2.20	1.53	0	8	11	8	11	se.	U. S. Weather Bureau.
Lodgepole	Cheyenne	3,820	15	67.1	+ 5.7	100	12	33	21	58	0.26	− 0.88	0.15	0	2	18	9	3	se.	R. T. Kidney.
Loup	Sherman	2,067	17	66.6	+ 2.5	98	1	32	19	43	1.85	− 1.09	0.73	0	7	19	7	4	se.	Harriet Hayhurst.
Loyal	Custer	.....	3	.....	.....	.....	.....	.....	.....	.....	0.38	.....	0.20	0	2	18	0	12	s.	C. H. Cass.
McCook	Redwillow	2,506	15	71.6	+ 4.4	103	13	33	19	44	0.59	− 1.22	0.28	0	3	24	4	2	ne.	C. G. Coglizer.
McCool Jct	York	1,575	15	.....	.....	.....	.....	.....	.....	.....	3.67	− 0.06	1.34	0	6	.....	.....	.....	.....	L. L. Slagle.
Madison	Madison	1,585	18	67.4	+ 3.7	95	1†	34	19	43	1.58	− 1.36	1.25	0	3	13	9	8	se.	Dr. F. A. Long.
Marquette	Hamilton	1,830	32	.....	.....	.....	.....	.....	.....	.....	3.71	+ 1.11	1.44	0	9	.....	.....	.....	.....	John Ellis.
Mary	Brown	.....	1	.....	.....	.....	.....	.....	.....	.....	1.42	.....	0.31	0	8	11	16	3	se.	G. C. Stufft.
Mason City	Custer	2,257	9	.....	.....	.....	.....	.....	.....	.....	2.25	.....	0.85	0	7	.....	.....	.....	.....	J. A. Amsberry.
Minatare	Scotts Bluff	3,825	2	.....	.....	.....	.....	.....	.....	.....	1.20	.....	0.70	0	2	19	0	11	se.	A. Kennedy.
Minden	Kearney	2,169	33	66.8	+ 1.8	99	13	35	19	40	2.87	+ 0.20	0.91	0	11	11	11	8	se.	Joel Hull.
Mitchell	Scotts Bluff	3.950	3	63.2	.....	95	11	33	21	54	1.63	.....	0.97	0	5	17	9	4	se.	U. S. Reclamation Service.
Mullen	Hooker	3,199	1	.....	.....	.....	.....	.....	.....	.....	1.69	.....	0.47	0	8	12	14	4	se.	C. R. Polen.
Nebraska City	Otoe	941	36	71.6[d]	+ 5.1	96	1	38	19	42[d]	9.58	+ 5.64	3.00	0	7	17	6	7	s.	C. B. & Q. R. R. Co.
Nelson	Nuckolls	1,683	1	.....	.....	.....	.....	.....	.....	.....	2.07	.....	0.70	0	7	14	8	8	sw.	Mack I. Koser.
Norfolk	Madison	1,532	29	66.8	+ 3.3	101	1	33	19	47	1.25	− 1.09	0.80	0	8	19	4	7	se.	Dr. P. H. Salter.
North Loup	Valley	1,961	23	69.3	+ 4.9	105	1	33	19	48	1.53	− 0.52	0.68	0	6	13	14	3	se.	W. G. Rood.
North Platte	Lincoln	2,841	37	66.6	+ 3.4	98	1	38	19	48	1.37	− 0.13	0.61	0	11	8	15	7	se.	U. S. Weather Bureau.
Oakdale	Antelope	1,722	24	64.6	+ 1.9	95	1	33	19	40	1.23	− 0.98	0.30	0	8	6	17	7	s.	G. S. Clingman.
Omaha	Douglas	1,103	41	69.9	+ 4.1	97	1	45	21	30	2.55	− 0.48	1.98	0	8	9	7	14	s.	U. S. Weather Bureau.
Ord	Valley	2,062	18	.....	.....	.....	.....	.....	.....	.....	1.29	− 1.30	0.68	0	4	10	6	14	s.	Jas. Milford.
Orleans	Harlan	1,993	4	.....	.....	.....	.....	.....	.....	.....	1.82	.....	0.80	0	5	.....	.....	.....	.....	Jas. McGeachin.
Osceola	Polk	1,644	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. T. Ray.
Palisade	Hitchcock	.....	3	.....	.....	.....	.....	.....	.....	.....	0.53	.....	0.24	0	4	.....	.....	.....	.....	E. E. Young.
Palmyra **	Otoe	1,142	19	69.4	+ 3.6	94	1	44	19†	.....	4.94	+ 1.08	1.86	0	8	15	10	5	s.	Thos. Coles.
Pawnee City	Pawnee	1,175	16	71.6	.....	95	1†	39	19	36	9.86	+ 6.20	5.20	0	7	17	4	9	s.	F. A. Barton.

TABLE 1.—*Climatological data for September, 1911. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Nebraska—Continued.																				
Paxton	Keith	3,060	4	.....	.....	.....	.....	.....	.....	.....	1.02	.....	0.40	0	10	4	25	1	.....	H. D. Lute.
Plymouth	Jefferson	1,419	7	69.4	.....	95	1†	39	19	38	4.82	.....	2.00	0	7	9	10	11	se.	John Ruppel.
Purdum	Blaine	.....	11	65.4	+ 2.2	95	13	33	19	42	1.25	− 0.55	0.28	0	7	13	12	5	sw.	T. C. Jackson.
Ravenna	Buffalo	2,028	34	68.0	+ 2.9	99	13	32	19	45	1.70	− 0.47	0.72	0	6	21	2	7	nw.	H. G. Smith.
Red Cloud	Webster	1,687	18	71.1	+ 3.9	103	13	36	19	42	2.17	− 0.62	0.63	0	7	16	5	9	ne.	Chas. S. Ludlow.
St. Libory	Howard	1,887	17	.....	.....	.....	.....	.....	.....	.....	3.60	+ 0.73	1.14	0	7	14	12	4	se.	W. I. Meader.
St. Paul	do	1,796	17	69.0	+ 2.7	99	1	36	19	42	1.92	− 0.66	0.60	0	6	18	9	3	sw.	Paul Anderson.
Santee	Knox	.....	24	67.6	+ 2.3	100	2	32	19	47	2.85	+ 0.64	0.93	0	6	11	15	4	se.	Nat H. Neff.
Sargent	Custer	2,339	17	64.3	.....	97	1	37	8	44a	2.11	+ 0.47	0.90	0	6	18	0	12	se.	J. L. Ferguson.
Schuyler	Colfax	1,357	19	68.9	.....	102	1	35	19	45	2.28	− 0.16	1.45	0	6	14	10	6	n.	J. T. Sumner.
Scottsbluff	Scotts Bluff	3,888	5	65.2	.....	94	12	32	21	56	0.98	.....	0.35	0	10	15	13	2	se.	A. B. McCoskey.
Seward	Seward	1,435	22	67.6	+ 0.7	95	10	38	18	43	4.80	+ 1.48	2.65	0	8	3	26	1	se.	C. B. & Q. R. R. Co.
Sidney	Cheyenne	4,090	19	.....	.....	.....	.....	.....	.....	.....	0.77	− 0.28	0.55	0	5	25	5	0	se.	John P. Fischer.
Springview	Keyapaha	.....	21	65.0	+ 1.5	92	13	38	19	40	1.70	+ 0.32	0.45	0	9	14	11	5	nw.	C. L. Phelps.
Stanton	Stanton	1,472	20	66.0	+ 1.8	98	1	31	19	44	1.75	− 1.18	1.50	0	2	11	15	4	se.	Alfred Pont.
Stratton	Hitchcock	2,804	16	.....	.....	.....	.....	.....	.....	.....	0.33	− 1.41	0.33	0	1	.....	.....	.....	.....	Miss Stella Vennum.
Superior	Nuckolls	1,574	27	.....	.....	.....	.....	.....	.....	.....	1.60	− 0.88	0.80	0	3	.....	.....	.....	.....	F. V. Bishop.
Syracuse	Otoe	1,059	19	70.7	+ 3.5	98	1	37	19	41	6.49	+ 2.82	2.90	0	7	16	4	10	se.	W. N Hunter.
Tablerock	Pawnee	1,023	22	.....	.....	.....	.....	.....	.....	.....	6.79	+ 3.40	2.67	0	11	16	8	6	s.	E. D. Howe.
Tecumseh	Johnson	1,113	34	72.4	+ 5.2	99	1	40	20	44b	7.29	+ 4.36	2.50	0	10	8	15	7	.....	F. B. Thurber.
Tekamah	Burt	1,060	22	67.8	+ 2.2	97	1†	38	19	45	1.19	− 1.54	0.32	0	7	8	4	18	n.	Dr. A. D. Nesbit.
Tobias	Saline	1,597	2	.....	.....	.....	.....	.....	.....	.....	2.83	.....	1.05	0	5	.....	.....	.....	.....	Frank Ainsworth.
University Farm	Lancaster	.....	28	69.9	+ 2.3	97	1	39	19†	39	4.85	+ 2.13	1.63	0	7	10	17	3	.....	S. W. Perin.
Valentine	Cherry	2,613	23	63.2	+ 0.9	90	1	38	18	40	2.17	+ 0.38	0.98	0	9	9	18	3	s.	U. S. Weather Bureau.
Wahoo	Saunders	1,187	9	.....	.....	.....	.....	.....	.....	.....	1.13	.....	0.65	0	3	21	8	1	sw.	W. T. Mauck.
Wakefield	Dixon	1,387	18	65.5	+ 1.7	99	1	30	19	47	2.35	− 0.76	1.36	0	6	10	13	7	s.	I. H. Weaver.
Walthill	Thurston	.....	8	64.4d	.....	98	1	30	19†	46d	0.60	.....	0.45	0	3	.....	.....	.....	.....	A. P. Coleman.
Watertown	Buffalo	2,299	6	.....	.....	.....	.....	.....	.....	.....	2.68	.....	0.90	0	5	12	15	3	se.	R. E. Swift.
Wauneta	Chase	.....	14	.....	.....	.....	.....	.....	.....	.....	1.80	− 0.04	0.80	0	6	.....	.....	.....	.....	C. D. Fuller.
Weeping Water	Cass	1,080	33	71.1	.....	101	1	38	19	47	4.04	+ 1.03	1.30	0	7	15	4	11	se.	S. W. Orton.
Westpoint	Cuming	1,313	23	69.6	+ 3.8	101	1	38	19	44	2.29	− 0.66	1.73	0	3	16	7	7	se.	J. C. Elliott.
Wisner	do	1,380	16	.....	.....	.....	.....	.....	.....	.....	2.07	− 1.92	1.58	0	4	26	1	3	.....	F. C. Evans.
York	York	1,633	21	69.3	+ 2.3	99	1	38	19	44	4.91	+ 1.81	2.08	0	8	13	10	7	se.	A. T. Glauque.
Iowa.																				
Afton	Union	1,212	17	68.5	+ 3.4	93	1	46	19†	31	3.76	+ 0.11	1.52	0	11	6	14	10	sw.	N. W. Rowell.
Allerton	Wayne	.....	9	69.1	.....	97	1	43	19	32	6.85	.....	1.68	0	16	15	7	8	sw.	Mrs. Geo. Shriver.
Alton	Sioux	1,305	6	64.0	.....	95	1	35	19	38	2.94	.....	1.13	0	9	9	12	9	se.	W. S. Slagle.
Atlantic	Cass	1,164	20	68.8	+ 4.4	96	1	37	19	39	2.14	− 1.35	1.25	0	11	11	8	11	ne.	Thos. H. Whitney.
Audubon	Audubon	1,301	17	67.0	+ 3.8	96	1	43	19	38	4.92	+ 1.79	2.15	0	4	11	9	10	se.	Geo. E. Kellogg.
Bedford	Taylor	.....	11	70.7	+ 6.1	99	2	37	19	41	4.60	+ 1.16	1.08	0	13	17	5	8	se.	E. E. Healy.
Centerville	Appanoose	.....	1	69.6	.....	99	1	47	19†	38	6.83	.....	2.20	0	17	10	12	8	s.	Gordon Peacock, jr.
Chariton	Lucas	1,042	16	68.2	+ 2.7	99	1	43	19	39	6.35	+ 2.91	1.50	0	13	10	10	10	s.	C. C. Burr.
Clarinda	Page	1,009	21	68.7	+ 2.5	100	1	41	19†	43	2.69	0.00	0.70	0	9	11	2	17	s.	A. S. Van Sandt.
Corning	Adams	1,117	19	69.4	+ 4.6	96	1†	35	19	40	3.56	+ 0.60	1.02	0	7	15	10	5	sw.	Jerome Smith.
Corydon	Wayne	1,101	18	.....	.....	101	1	.....	.....	.....	5.94	+ 2.35	1.75	0	12	10	7	13	s.	J. J. C. Bower.
Council Bluffs	Pottawattamie	.....	1	69.6	.....	100	13	32	19	46	3.07	.....	2.00	0	6	3	15	12	se.	B. W. Crossley.
Creston	Union	1,312	6	67.4	.....	97	1†	39	19†	38	3.20	.....	1.39	0	10	10	3	17	e.	O. J. Colby.
Cumberland	Cass	.....	12	.....	.....	.....	.....	.....	.....	.....	3.65	+ 0.01	2.02	0	7	21	4	5	se.	J. H. Reppert.
Denison	Crawford	1,180	17	66.3	+ 2.6	97	1	33	19	41	3.11	+ 0.11	1.01	0	11	15	9	6	s.	W. C. Van Ness.
Elliott	Montgomery	.....	6	70.0	.....	96	1†	36	19	50	1.99	.....	0.65	0	8	12	15	3	se.	Henry Barnes.
Greenfield	Adair	.....	19	67.8	+ 2.9	96	1	41	19	36	2.37	− 1.04	0.72	0	8	8	17	5	e.	R. B. Oldham.
Harlan	Shelby	1,182	12	66.7	+ 3.7	96	1	34	19	42	4.02	+ 0.31	3.20	0	9	7	12	11	ne.	C. A. Reynolds.
Inwood	Lyon	1,474	7	63.6	.....	99	1	32	19	40	1.89	.....	0.85	0	7	10	12	8	se.	F. B. Hanson.
Lamoni	Decatur	.....	4	69.1	.....	97	1†	45	21	37	4.33	.....	0.95	0	15	14	2	14	se.	T. J. Fitzpatrick.
Larrabee	Cherokee	1,266	21	63.7	+ 0.9	95	2	33	19	42	3.35	− 0.07	1.50	0	5	.....	.....	.....	.....	R. H. Gray.
Le Mars	Plymouth	1,224	15	64.0	+ 1.5	91	1	37	19	30	2.55	− 1.23	1.20	0	9	6	18	6	ne.	G. A. C. Clarke.
Lenox	Taylor	1,250	16	69.6	+ 4.3	96	1†	42	21	40	4.00	+ 0.67	1.30	0	10	17	6	7	s.	J. L. Hurley.
Leon	Decatur	1,120	9	69.4	.....	98	1	45	24	34	4.18	.....	1.80	0	8	14	6	10	se.	Morris Gardner.
Little Sioux	Harrison	.....	6	68.2	.....	97	1	33	19	46	1.93	.....	1.16	0	8	14	6	10	se.	Geo. H. Gibson.
Logan	do	928	44	68.0	+ 3.9	99	1	34	19	42	1.19	− 2.06	0.57	0	9	5	20	5	ne.	Glenn H. Stern.
Mount Ayr	Ringgold	1,236	18	69.0	+ 2.3	97	1	38	30	38	3.78	+ 0.25	0.88	0	16	8	14	8	sw.	A. F. Beard.
Murray	Clarke	.....	20	69.5	+ 3.1	98	1	44	21	37	3.53	+ 0.04	1.19	0	14	6	13	11	s.	M. T. Ashley.
Odebolt	Sac	.....	14	66.6	+ 3.1	95	1	40	19	37	4.12	+ 0.37	1.93	0	8	17	6	7	.....	E. Starner.
Onawa	Monona	1,051	11	68.5	+ 3.3	98	1	40	19	40	2.40	− 2.40	1.20	0	8	11	12	7	nw.	C. G. Perkins.
Pacific Junction	Mills	960	12	69.5	+ 5.0	97	1†	34	19	41	2.15	− 1.31	0.80	0	5	9	20	1	s.	H. H. McCartney.
Rock Rapids	Lyon	1,358	12	63.6	+ 0.6	96	1	36	19	42	4.30	+ 1.79	2.35	0	6	.....	.....	.....	.....	W. C. Wyckoff.
Sheldon	O'Brien	1,422	11	62.8	+ 1.3	98	1	35	19	42	3.47	− 0.22	1.10	0	12	9	12	9	ne.	Dr. A. W. Beach.
Sibley	Osceola	1,212	18	60.3	− 0.4	94	1	36	19	40	3.89	+ 0.52	1.82	0	7	5	18	7	ne.	H. G. Doolittle.
Sioux Center	Sioux	.....	12	63.2	+ 1.9	94	1	42	19†	34	2.45	− 1.23	0.82	0	8	12	10	8	e.	J. de Ruyter.
Sioux City	Woodbury	1,135	22	65.6	+ 1.5	96	1	38	19	34	3.14	+ 0.67	1.43	0	10	9	14	7	s.	U. S. Weather Bureau.
Spencer	Clay	.....	1	62.8	.....	99	1	40	20	43	4.19	.....	1.55	0	6	.....	.....	.....	s.	S. Gillespie.
Thurman	Fremont	.....	14	69.6	+ 3.8	95	1	34	18	50	4.43	− 0.36	1.21	0	9	7	16	7	sw.	C. R. Paul.
Washta	Cherokee	1,157	13	66.6	+ 2.5	98	1	32	19	46	3.47	− 0.31	1.30	0	8	17	5	8	n.	H. L. Felter.
Woodburn	Clarke	961	12	69.8	.....	98	1	39	19	47	4.60	+ 0.60	1.59	0	15	7	13	10	sw.	C. B. McDonough.
Kansas.																				
Abilene	Dickinson	1,157	16	.....	.....	.....	.....	.....	.....	.....	2.52	−0.29	0.78	0	8	10	7	13	s.	T. W. Sherman.
Agricultural College	Riley	1,100	53	74.3	+6.1	104	14	40	19	41	4.49	+1.38	1.05	0	13	14	6	10	s.	Prof. J. O. Hamilton.
Alton	Osborne	1,651	9	74.4	.....	109	13	39	19	48	2.34	+0.26	1.20	0	7	16	6	8	s.	H. A. Storer.
Atchison	Atchison	973	20	73.9	+5.1	98	6	47	19	30	7.68	+3.95	4.50	0	11	17	7	6	s.	Prof. M. F. Troxell.
Beloit	Mitchell	1,383	16	73.8	.....	106	13	37	19	45	3.02	+0.52	1.81	0	8	12	7	11	se.	F. A. Slack.
Blakeman	Rawlins	2,894	14	69.8	.....	103	1	34	19	49	1.78	−0.62	1.13	0	4	16	9	5	se.	C. L. Henderson.
Blue Rapids	Marshall	1,105	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Norton.
Centralia	Nemaha	1,256	2	72.0	.....	96	1†	38	19	37	3.81	.....	1.80	0	8	18	0	12	se.	N. S. Hazen.
Chapman	Dickinson	1,113	7	75.5	.....	103	14	40	19	39	2.34	.....	0.90	0	6	17	7	6	s.	Dr. R. McShea.
Clay Center	Clay	1,203	10	74.2	.....	105	13	39	19	41	4.47	.....	1.90	0	7	9	7	14	s.	O. L. Slade.
Colby	Thomas	3,138	20	71.2	+5.8	106	11	43	21	51	1.28	−0.13	1.00	0	7	15a	11a	3a	s.	G. H. Kinkle.
Concordia	Cloud	1,398	27	72.6	+4.5	103	13	42	19	39	3.27	+0.69	1.16	0	9	6	15	9	s.	U. S. Weather Bureau.
Densmore	Norton	2,200	2	73.2	.....	107	17	40	21	45	1.69	.....	0.79	0	6	5	14	11	se.	J. J. Griffith.
Dresden	Decatur	2,731	17	70.7	+4.6	105	13	41	22	53	1.57	−0.32	1.46	0	3	12	5	13	se.	Jacob Bock.
Ellsworth	Ellsworth	1,537	7	74.6	.....	105	13	38	19	43	1.89	.....	0.52	0	8	14	11	5	s.	Geo. Seitz.
Enterprise	Dickinson	1,144	9	76.7	.....	105	14	41	19	40	2.44	−0.37	0.73	0	10	17	6	7	s.	J. R. Clark.
Eskridge	Wabaunsee	1,412	5	73.8	.....	99	14	48	21	36	1.58	.....	0.63	0	13	14	12	4	s.	Geo. D. West.
Farnsworth	Lane	2,850	10	73.4	+5.1	103	1†	43	19†	51	1.04	−0.85	0.54	0	6	26	2	2	s.	C. M. Jennison.
Fort Scott	Bourbon	857	36	75.2	+3.8	98	12†	50	19†	36	11.18	+7.71	8.00	0	9	16	1	13	sw.	E. A. Shaver.

TABLE 1.—*Climatological data for September, 1911. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Kansas—Continued.																			
Frankfort	Marshall	1,146	17	72.4	+3.9	100	13	37	19	45	4.59	+1.07	2.10	0	8	10	15	5	se.	E. C. Dunham.
Garnett	Anderson	950	5	76.4	.....	98	6†	49	19	34	3.27	.....	0.81	0	8	9	11	10	s.	D. D. Judy.
Goodland	Sherman	3,687	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. C. Calvert.
Gove	Gove	2,750	22	72.6	+4.3	105	1	40	8	53	0.97	−1.27	0.55	0	3	15	13	2	ne.	Jesse Royer.
Hanover	Washington	1,225	14	73.2	.....	100	13	41	19	38	3.48	+0.43	1.05	0	7	16	4	10	s.	A. Jaedicke, jr.
Harrison	Jewell	1,804	10	71.8	+5.2	103	13	36	19	44	2.68	−0.60	1.22	0	5	20	4	6	se.	Mahlon Tegley.
Hays	Ellis	2,000	43	71.8	+3.6	105	13	40	19	46	2.05	−0.36	0.70	0	8	15	7	8	sw.	G. K. Helder.
Hill City	Graham	2,134	3	72.0	.....	105	13	41	20	42	1.03	.....	0.65	0	4	17[d]	5[d]	4[d]	s.	I. R. Mort.
Horton	Brown	1,188	22	71.2	+3.0	97	1†	50	19†	37	3.43	−0.13	1.85	0	10	11	2	17	s.	Mrs. S. C. Belden.
Hoxie	Sheridan	2,700	13	73.2	+6.3	104	13	42	21	45	1.45	−0.78	1.45	0	2	12	16	2	n.	I. L. Vinson.
Jewell	Jewell	1,540	6	.....	.....	.....	.....	.....	.....	.....	3.82	.....	1.33	0	6	.....	.....	.....	.....	C. A. Shinn.
Lawrence	Douglas	997	43	72.6	+5.5	98	6	48	19	33	6.21	+2.52	2.12	0	13	11	9	10	ne.	Prof. H. P. Cady.
Leavenworth	Leavenworth	913	67	75.9	+8.5	99	6	51	19†	34	6.98	+3.40	2.70	0	12	15	6	9	s.	Dr. A. F. Yohe.
Lebanon	Smith	1,812	13	72.6	+5.0	103	13	50	8†	40	1.31	−1.38	0.50	0	6	24	0	6	s.	E. V. Bower.
Leoti	Wichita	3,300	....	71.8	.....	102	11†	40	19	50	0.31	.....	0.11	0	6	17	10	3	se.	Fred Burnham.
Lindsborg	McPherson	1,333	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Fredrickson.
Mankato	Jewell	1,784	2	73.9	.....	107	13	45	19	47	2.95	.....	1.50	0	6	7	14	9	s.	W. F. Isaac.
Minneapolis	Ottawa	1,259	21	73.8	+4.9	103	13	43	19	36	3.40	+1.18	1.55	0	7	16	3	11	se.	J. L. Steele.
Moran	Allen	1,098	15	76.2	+6.1	97	5†	47	21	36	6.84	+2.66	3.05	0	8	16	5	9	sw.	C. J. Norton.
Natoma	Osborne	1,834	2	.....	.....	.....	.....	.....	.....	.....	3.75	.....	2.75	0	3	22	2	6	s.	C. O. Hunt.
Norton	Norton	2,284	13	73.0	+6.4	104	13	44	19	42	1.76	−0.53	0.89	0	4	12	15	3	se.	Sim Sleffel.
Oberlin	Decatur	2,539	24	.....	.....	.....	.....	.....	.....	.....	2.07	+0.27	1.00	0	10	20	6	4	nw.	I. K. Huber.
Oketo	Marshall	1,194	3	71.9	.....	97	1	40	19	41	3.27	.....	1.24	0	8	4	18	8	se.	J. A. Church.
Olathe	Johnson	1,032	16	74.0	+5.2	100	6	47	19	34	6.92	+3.52	3.02	0	7	15	4	11	se.	Dr. S. B. S Wilson.
Osage City	Osage	1,081	12	74.0	.....	100	13†	44	19	35	1.46	−2.82	0.77	0	7	15	2	13	s.	W. C. White.
Ottawa	Franklin	926	17	75.6	+7.0	100	6†	48	19	36	1.13	−2.67	0.37	0	7	21	5	4	s.	H. F. McDougal.
Phillipsburg	Phillips	1,939	20	73.2	+5.8	105	13	42	19	42	1.66	−1.11	0.60	0	7	16	9	5	se.	N. E. Bailey.
Plainville	Rooks	2,156	5	.....	.....	.....	.....	.....	.....	.....	2.70	.....	1.10	0	4	22	5	3	se.	P. D. Spellman.
Pleasanton	Linn	862	9	74.4	.....	95	13†	47	22	33	3.55	.....	1.15	0	9	20	5	5	sw.	B. F. Blaker.
Republic	Republic	1,495	8	73.0	.....	104	13	36	19	44	3.03	.....	1.20	0	6	.....	.....	.....	.....	J. W. Amrose.
Russell	Russell	1,834	12	74.5	+6.1	105	13	40	19	42	1.41	−1.18	0.58	0	5	18	3	9	s.	Robert Brebner.
Russell Springs	Logan	.....	1	73.4	.....	104	1	42	21	51	0.57	.....	0.32	0	2	18	10	2	ne.	D. J. Hutto.
St. Francis	Cheyenne	3,288	3	69.8	.....	103	1	41	19	49	2.01	.....	1.21	0	5	14	13	3	se.	J. E. Uplinger.
Salina	Saline	1,227	27	77.0	+6.9	104	2†	44	19	45	3.02	+0.70	1.60	0	8	13[b]	11[b]	4[b]	s.	Prof. A. W. Jones.
Scott	Scott	2,971	5	74.1	.....	104	13	50	20	51	0.48	.....	0.39	0	3	21	6	3	s.	J. B. Loughran.
Smith Center	Smith	1,800	1	.....	.....	.....	.....	.....	.....	.....	2.92	.....	1.57	0	3	22	3	5	se.	W. H. Nelson.
Topeka	Shawnee	997	25	73.6	+5.3	99	14	49	19	30	4.45	+0.89	1.02	0	13	13	9	8	s.	U. S. Weather Bureau.
Valley Falls	Jefferson	913	12	73.0	+5.5	101	6	44	19	38	6.07	+1.99	1.95	0	12	17	5	8	se.	Miss Nettie Maxwell.
Vinland	Douglas	880	2	.....	.....	.....	.....	.....	.....	.....	3.00	.....	1.23	0	8	.....	.....	.....	.....	A. Schick.
Wakeeney	Trego	2,456	28	73.3	+4.5	105	1	45	21	48	2.65	+0.65	1.26	0	9	21	2	7	s.	A. S. Peacock.
Wallace	Wallace	3,303	41	72.0	.....	102	1	42	21	48	0.47	−0.85	0.47	0	1	5	21	4	ne.	M. T. Griggs.
Wamego	Pottawatomie	1,002	18	.....	.....	.....	.....	.....	.....	.....	4.81	+1.35	1.67	0	11	8	12	10	s.	M. L. Stone.
Missouri.																				
Amoret	Bates	850	3	75.6	.....	98	13	49	22	34	3.63	.....	1.35	0	9	14	11	5	sw.	Darby Fruit Farm.
Appleton City	St. Clair	853	22	75.8	+ 5.2	100	13	48	22	36	6.02	+ 2.53	1.72	0	8	11	14	5	sw.	T. C. Brown.
Arthur	Vernon	767	19	75.6	+ 6.6	99	12	47	22	36	7.25	+ 3.36	4.15	0	8	18	8	4	sw.	J. T. Armstrong.
Avalon	Livingston	.....	26	72.2	+ 3.4	97	2	48	19	31	4.48	− 1.60	0.85	0	12	15	9	6	sw.	F. G. Ashbaugh.
Bethany	Harrison	881	21	68.8	+ 2.5	92	9	45	20	34	5.33	+ 1.69	1.96	0	11	13	9	8	se.	W. H. Skinner.
Bolivar	Polk	1,070	24	76.3	+ 6.3	99	12	49	22	33	7.48	+ 4.01	5.00	0	10	14	13	3	sw.	A. C. Fink.
Boonville	Cooper	600	36	.....	.....	.....	.....	.....	.....	.....	10.66	+ 6.26	3.90	0	12	11	3	16	se.	C. Randecker.
Brunswick	Chariton	652	33	72.2	+ 4.0	95	2	53	19†	38	11.47	+ 7.48	3.63	0	17	8	4	18	ne.	Louis Benecke.
Columbia	Boone	784	22	72.8	+ 5.0	94	6	50	22	30	8.87	+ 6.02	2.59	0	12	15	7	8	s.	U. S. Weather Bureau.
Conception	Nodaway	982	27	70.8	+ 4.0	98	2	49	19†	34	6.68	+ 3.38	2.83	0	14	6	16	8	sw.	Fr. Adhelm Hess.
Crocker	Pulaski	.....	1	75.0	.....	100	12	44	22	45	4.29	.....	1.91	0	9	20	4	6	se.	Ira H. Stephens.
Eldorado Springs	Cedar	750	7	75.8	.....	97	13	49	22†	37	4.50	.....	2.25	0	9	17[a]	4[a]	8[a]	sw.[a]	Samuel Graham.
Fayette	Howard	725	29	72.8	+ 4.0	96	2	52	22	31	9.27	+ 4.77	2.70	0	11	12	11	7	.....	Prof. T. Berry Smith.
Fulton	Callaway	818	21	74.8	+ 6.2	97	12	50	23	35	7.74	+ 3.80	2.68	0	14	17[a]	4[a]	8[a]	.....	Russel Johnston.
Glasgow	Howard	618	34	.....	.....	.....	.....	.....	.....	.....	8.46	+ 4.49	2.98	0	12	11	3	16	s.	J. J. Shaughnessy.
Grant City	Worth	1,130	20	71.6	.....	101	1	45	19	37	4.84	+ 1.11	1.16	0	12	18	2	10	s.	W. H. Campbell.
Harrisonville	Cass	912	40	74.7	+ 6.4	98	6	49	21	40	4.73	+ 0.50	3.71	0	8	9	5	16	sw.	A. J. Sharp.
Hazelhurst	Livingston	.....	19	.....	.....	.....	.....	.....	.....	.....	6.96	+ 3.10	1.88	0	15	.....	.....	.....	.....	W. H. Baker.
Hermann	Gasconade	482	38	.....	.....	.....	.....	.....	.....	.....	7.04	+ 3.26	1.44	0	13	9	9	12	e.	C. T. Maushund.
Houston	Texas	1,280	20	73.4	+ 1.0	94	12†	44	22	36	6.49	+ 2.71	1.73	0	11	6	22	2	s.	E. Dempsey.
Jefferson City	Cole	628	30	72.7	+ 3.7	95	12†	47	22	42	5.00	+ 2.08	1.75	0	13	17	0	13	s.	Miss Emma Swift.
Kansas City	Jackson	963	22	73.4	+ 5.9	96	6	53	21	31	6.17	− 2.41	3.29	0	15	13	5	12	s.	U. S. Weather Bureau.
Kidder	Caldwell	1,017	22	72.0	+ 4.7	97	6	49	19†	32	3.71	− 0.26	0.76	0	16	14	3	13	ne.	J. F. Sharp.
Lamonte	Pettis	863	23	76.0	.....	99	13	50	22	36	5.81	+ 1.56	1.47	0	10	15	3	12	sw.	Dr. W. E. Walker.
Lebanon	Laclede	1,265	24	73.6	+ 3.6	96	1	52	22	36	7.25	+ 3.42	3.35	0	8	14	8	8	s.	M. W. Serl.
Lexington	Lafayette	813	30	73.6	+ 5.3	96	2†	50	19	29	7.84	+ 3.49	3.70	0	13	10	0	20	s.	J. W. Keithley.
Liberty	Clay	864	24	74.8	+ 5.7	99	2	42	19	31	5.41	+ 1.68	3.20	0	8	10[a]	15[a]	4[a]	sw.[a]	W. C. Wilmott.
Lockwood	Dade	1,068	17	75.5	.....	95	12†	51	22	26	6.64	+ 3.23	4.87	0	9	21	3	6	sw.	C. S. Crow.
Marshall	Saline	779	22	74.2	+ 5.8	97	2	50	22	34	10.78	+ 6.52	3.80	0	13	15	7	8	sw.	Dr. W. H. Black.
Maryville	Nodaway	1,160	22	69.2	+ 3.5	96	1	44	19	37	3.93	+ 0.37	1.11	0	13	11	4	15	s.	J. R. Brink.
Mount Vernon	Lawrence	1,480	35	75.2	+ 3.7	97	12	52	22	30	2.61	− 0.91	0.45	0	9	19	5	6	sw.	J. R. White & Son.
Nevada	Vernon	860	18	.....	.....	.....	.....	.....	.....	.....	11.17	+ 7.21	7.75	0	7	17	10	3	sw.	C. Jewell.
Oregon	Holt	1,113	57	70.5	+ 3.5	97	6	41	19	35	7.05	+ 1.58	4.35	0	10	16	5	9	se.	Tom Curry.
Pattonsburg	Daviess	.....	2	.....	.....	.....	.....	.....	.....	.....	4.70	.....	0.78	0	12	12	0	18	sw.	Wm. Burton.
Rolla	Phelps	1,139	31	75.4	+ 8.8	96	12	49	22	33	3.68	− 0.12	1.59	0	11	20	4	6	sw.	Prof. P. J. Wilkins.
St. Charles	St. Charles	614	34	74.2	+ 7.8	99	2	53	20†	35	10.23	+ 7.52	3.83	0	10	12	11	7	s.	L. C. Saeger.
St. Joseph	Buchanan	825	40	72.4	.....	96	1	47	19	30	5.72	+ 2.64	2.97	0	14	11	8	11	se.	U. S. Weather Bureau.
St. Louis (1)	St. Louis city	567	40	74.2	+ 4.2	95	14	56	22	24	7.09	+ 4.18	3.05	0	14	9	13	8	sw.	Do.
St. Louis (2)	....do	.....	1	74.8	.....	95	14	55	22	26	7.30	.....	2.64	0	11	11	12	7	se.	St. Louis University.
Sublett	Adair	1,000	32	69.6	+ 2.8	95	2	39	22	36	14.95	+10.84	4.25	0	15	6	8	16	w.	Lewis Spriggs.
Trenton	Grundy	812	17	71.1	+ 3.9	93	3†	48	19	33	12.06	+ 8.61	2.52	0	19	13	5	12	s.	W. H. Estes.
Unionville	Putnam	1,072	19	69.3	+ 1.9	100	2	45	19	36	10.57	+ 6.09	3.00	0	17	9	4	17	s.	Geo. W. Davis.
Warrensburg	Johnson	853	33	76.4	+ 6.7	97	6	53	19†	31	7.36	+ 4.08	1.92	0	7	19	2	9	s.	A. F. Smithson.
Warrenton	Warren	865	22	73.2	+ 4.5	96	14	51	20†	33	7.24	+ 3.39	2.88	0	11	8	9	13	n.	Dr. John H. Frick.
Warsaw	Benton	700	8	75.6	.....	99	13	45	22	38	5.33	.....	1.52	0	12	15	11	4	e.	Dr. J. R. Smith.
Wheatland	Hickory	920	20	.....	.....	.....	.....	.....	.....	.....	4.41	+ 0.29	3.08	0	6	16	9	5	s.	Mrs. S. A. Jackson.

a, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1911. District No. 6, Missouri Valley.*

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Wyoming.																																
Arapahoe	Bighorn																															
Barnum	Powder		T.			T.		T.																						T.	T.
Basin	Bighorn						.17							.13																	0.30
Bennett	North Platte			.05																				.28				.08	.07	.25	.72	1.45
Big Creek Station	do					.05	.10							T.																1.02	1.17
Burns	South Platte																															
Casper	North Platte	.04			.02												.03								.01			.03	.01	.02	0.16
Centennial	do	.07	.05			.01																	.02	.17			T.		.02	.25	0.59
Cheyenne	South Platte	T.	.04	T.	T.	T.		.13		T.	T.	T.	T.	.02					T.					.02		.01	T.	T.	.01	1..2	1.35
Chugwater	North Platte				.17			.30	.04															T.	.19					.12	0.82
Clark	Clarks Fork			.09		.08	T.	.27						.12											.29	.51	T.				1.36
Cody	Bighorn			.11	.04	.20	.03	.08																		.04				.05	0.55
Crazy Creek	Clarks Fork			.15		.50	.15	.22					.02	.01									.08	.08	.29	.50	.03			.02	2.05
Dome Lake	Tongue		.15				.43								.40			.80								.13			.15	.20	2.26
Douglas	North Platte			T.																				T.		.05		.08		.03	.60	0.76
Dubois	Bighorn	T.		.10		.30		.07						.20									.10	.12		T.		.15			.45	1.49
Eatons Ranch	Tongue			.06		.24																				.85					1.15
Echeta	Powder					.40													.05						.04						0.49
Elk Mountain	North Platte		.03				.10								.05									.19	.12		.08	.13	.40	.55	1.65
Encampment	do	T.	.05				.03								T.			T.					.10	.09			.05	.13	.05	T.	.48	0.89
Ervay	do												T.	T.														.05	T.	.06	1.12	1.23
Fort Laramie	do		.04		.04		.12		.03																.05					.05	0.33
Fox Park	do					T.	.05			T.					.15				T.					.41					.70	1.31
Germania	Bighorn			T.		T.								.23												T.		T.		T.	0.23
Gillette	Powder						.70	.10							T.			.04													0.84
Horse Creek	Bighorn	T.	T.	.32		.25	.04							.38									.12	T.	.11	.02	T.	T.		.24	1.48
Hunters Station	Powder				.34		.08							T.				.14							.06			.11			0.73
Hyattville	Bighorn																															
Jireh	Niobrara		.06	.01		.01	T.	.12															.04		T.	.04		.05			.13	0.46
Kirtley	do						.08	.07																								0.15
Kirwin	Bighorn			.47		.32								.30				.10								.10						1.29
Knowles	Belle Fourche					.15	.82							.67				.03														1.67
Lagrange	North Platte		.15				.02	.05							T.									.15	.15				.02		.32	0.86
Lander	Bighorn	.01	T.	T.		.02							T.														T.	.02			.17	0.22
Laramie	North Platte																															
Leo	do																															
Lolabama ranch	Bighorn			.05				.25						.12																		0.42
Lovell	do					.08	T.							T.				T.							.25	.09		T.				0.42
Lusk	Niobrara					.35																								.60		0.95
Manville	do		T.	.09		T.		.05						T.									.04						.09	.09	0.36
Moorcroft	Belle Fourche				.02		.30	.02						.15																	.05	0.54
Moore	North Platte	.02	.02	T.			T.	T.					T.												.01		T.				.20	0.25
Newcastle	South Fork of Cheyenne.						.10																					T.			.31	0.41
Pathfinder	North Platte			T.		T.	T.								T.								.02					.18			.34	0.54
Phillips	do																															
Pinebluff	South Platte		.10	1.96	.09		.06	.07	.03				.07													T.	T.		T.	T.	.05	2.43
Pine Ridge	North Fork of Cheyenne.						.45	.10						.08				T.												.02		0.68
Powell	Bighorn				.04	.13	.03	.09																		.36				.02	0.67
Rambler	North Platte					.39							.02	.17	.15		.07					.20	.36	.14		.09	.28	.73	.16	.57	.64	3.97
Rawlins	do		T.	T.		.01	.04								.13			T.					T.	.12	.10		.27	.37	.09	.13	.20	1.46
Riverton	Bighorn		T.	.19		.01							T.	T.														T.	.03		.03	0.26
Rocky Point	Powder						.70	.23						.40	.05			.18												T.		1.56
Saratoga	North Platte	T.	.07	.01			.03						T.	.04	.02									.05	.03		.10	.23	.38	.02	.35	1.33
Seven Mile Creek	do	.02	T.			T.																		.03	.01		T.	.04	.10	T.		0.20
Sheridan	Tongue			.03		.32	.14	.12					T.	.34				.12					T.		.27	.05	T.		.10			1.54
Shoshone Dam	Bighorn	T.				.44	T.	.08										T.							T.		T.				T.	0.52
Soldiers Home	Powder				.06	.02	.20	.06							.01			.09						.02	.03							0.49
South Pass City	North Platte	T.	.03	.05		.05	.06						.02	.04									.22		.43	.02	.15	.16	.03		.16	1.42
Sundance	North Fork of Cheyenne.		.08				.30	.05						.10																.30	0.83
Thermopolis	Bighorn			.29		.24	.02							.03																	0.58
Verona	Tongue					.35	.60							.19			.10											.18			.18	1.60
Wheatland	North Platte	.20	T.	.03	T.	T.		.06																T.	.01	T.	T.				.09	0.39
Wiants Ranch	do	.07	.04									.08	.09										.16	.10	.11		.11	.44	.07	.08	.05	1.40
Wiley	Bighorn	.07		.04		.12		T.					.10					.07						T.					T.	T.	0.40
Woodrock	Tongue				.05	.15	.25	.15						.30				.85							.09		.10	.07		T.	T.	2.01
Worland	Bighorn	T.			.03	.07	.08							.01				T.					.01		T.						0.20
Wyncote	North Platte	.03		.13		.02		.44												T.			T.		.07					.06	0.75
Yellowstone Park	Yellowstone	T.	T.	.02		.75	.09						.01	.03									.04		.17	T.					1.11
Fairview Dome (1)	do	.08		.10		.40	.01	.17					.05	.08									.07		.18	.32	.05				1.51
Fountain (2)	Madison							.01																							0.01
Gallatin (3)	do	T.	.03	.05										.02									.07		.09						0.39
Grand Canyon (4)	Yellowstone		.09	.04		.54	.05	.25						.03				.10					.13		.37		.07				1.67
Lake Yellowstone (5)	do			.10		.50		.40											.10				.10		.30			.02			1.42
Norris (6)	do		T.	T.													T.	T.					.18		.22	.20	.01				0.61
Riverside (7)	Madison				.22	.24	.03								.06																0.55
Sylvan Pass (8)	Bighorn			.05	.16	.54	.22	.54						.10				.11					.22		.23	.03	.27	.10			2.57
Thumb (9)	Yellowstone					.50	.10	.40																							1.00
Tower Falls (10)	do			.03	.46	.26																	.04		.27	.18					1.24
Upper Geyser Basin (11).	Madison					.05	T.																1.00		.50	T.	T.					1.55
Montana.																																
Adel	Missouri			.10	.60	1.20	.30							.17		T.		.14					.15		.04							2.70
Agricultural College.	Gallatin																															
Augusta	Sun				.55	.69	.52	.03															.44									2.23
Babb	Milk			.70	2.00	.82	.64	.01								.12		.08		.02		.33	.33	.01							.01	5.07
Badger Creek	Marias																															
Bald Butte	Missouri		.09	.48	.22	.16	.25							.22		.05							.13									1.60
Bigtimber	Yellowstone					.24	.10																	.45	.10							0.89
Bigtimber Creek	do		T.	.45		.37	.30	.04						.13									.20	.10	.18		T.					1.77
Billings	do	.18				.15	.03		.10																.04							0.50
Blackleaf	Missouri																															
Bloomfield	Yellowstone																															
Boulder Nursery	Jefferson			.21	.03	.33	.07	.03	.01					.40									.06						.01			1.15
Bowen	do			T.		.37	.93	.03															.02									1.35
Bridger	Yellowstone					.15	.05	.09																	.10							0.39
Broadview	do					.40	.10																.20	.25								1.20
Busby	do				.10	.20	.30	.30						.25																		0.90

TABLE 2.—*Daily precipitation for September, 1911. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Montana—Contd.																																
Busteed	Yellowstone			.08		.28	.17							.04										.38	.14							1.09
Cabin Creek	Jefferson	T.		.26	.03	.15	.03							.55																		1.02
Canyon Ferry	Missouri			.05	.30	.34	.51							.38									.07	.05								1.70
Cascade	do			.10	.33	1.21	.65	.06						.01		.03		.03	T.				.40		.01							2.83
Chessman Reservoir	do			.90	.20	.30	.15							.07		.15		T.					.13	.04								1.94
Chester	do				2.35	.73	.41																.50									3.99
Chinook	Milk				3.40	1.10	1.23	.02						.23	.02			.32					.60	.08		.09						7.09
Chouteau	Missouri																															
Clearcreek	Milk				2.43	.66	1.12							.24		.06		.73	.08				.33									5.65
Clemons	Missouri			.07	1.50	1.01	.68	.05								.06							.23		.04							3.04
Clydepark	Yellowstone			.20		.07	.02							.22									.23	.06	.05							0.85
Conrad	Marias		1.13	.71	1.50	.48										.10					.79											4.71
Copper	Musselshell			.20	.05	.30	.11							.50	.15			.09			.01	.10	.40	.01								1.92
Crow Agency	Bighorn	.03				.24	.04	.18						.03												.02		T.	T.			0.54
Culbertson	Missouri		.02		1.35	.92	1.78	.22																	.12							4.41
Cummings	Bighorn																															
Cut Bank	Marias			.22	1.92	.66	.74										.11				.49											4.14
Denton	Missouri			T.	.22	.54	.54	.08						.21		T.		.08	.06				.29		T.			T.				2.02
Dillon	Jefferson	T.	.02	.04	T.	.19	.26	.11						.12	.10						.08		.11									1.03
Dirty Creek	Musselshell		.03	.26	.33	.23	.06							.32				.18					.21	.04	.12							1.78
Dry Creek	Missouri			.11	.12	.21	.28	.03						.81	.16			.19					.02		.02							1.95
Dry Wolf Camp	do			.70	.20	.10	T.							.41					.25				.15		T.							1.81
East Gallatin River	Gallatin			.09		.19	.31							.20	.24			T.					.14	.08								1.25
Ekalaka	Little Missouri						1.12	.30							.55			.12						.05								2.14
Elkhorn	Jefferson			.16		.40	.09	.01						.57				T.					.04			.02						1.29
Evans	Missouri																															
Fallon	Yellowstone				.18		1.72	.50						.07			.04															2.51
Fish Creek	Jefferson			.50		.65	.36	.10						.68									.10					.04				2.43
Flathead Creek	Yellowstone			.10		.22	.30							.42	.23			.07					.18		T.				.16			1.68
Forsyth	do																															
Fort Benton	Missouri			.85	1.10	1.00								.12				.33						.50								3.90
Fort Shaw	Sun			.06	.26	.70	.38	.02										.10					.20									1.72
Foster	Bighorn					.42	T.	.07						.12									T.	.13	T.			T.	.02			0.76
Garneill	Musselshell																															
Glasgow	Milk				*	*	2.43	1.50						.37				.16					.17									4.63
Glendive	Yellowstone			.28	.02	1.53	.72	.38					.01					T.					.18		.01							3.13
Goldbutte	Marias			.14	3.28	.58	.44	.03						.07				.29	.03			T.	.52	.01				.01	T.			5.40
Graham	Powder				T.	.44	1.14	.41						T.			.24									.03						2.26
Grayling	Madison		T.	.04		.52	.10	.04						.10									.07		.07		T.					0.94
Great Falls	Missouri		T.	.14	.49	.54	.52	.03						.12		.04		.16					.14									2.18
Half Moon Pass	Musselshell																															
Half Way House	Missouri		.47	.32		.34	.27							.72	.11			.39					.19		.15							2.96
Harlowton	Musselshell			.35		.26	.04																		.48							
Havre	Milk			.18	2.52	1.07	.73	T.						.36				.31	.09			.15	.57	T.	.01				T.			5.99
Helena	Missouri			1.52	.06	.43	.05		T.					.03		.01	T.						.14				T.					2.24
Highwood	do			.03	.76	.55	.45	.20						.21				.75					.12	.06	.04							3.17
Huntley	Yellowstone					.42	.14																									0.56
Jones Canyon	Gallatin				.12		.11	.15					.25	.45				T.					.31	.11	T.			.06				1.56
Jordan	Missouri																															
Knobles Ranch	Milk			2.00	1.00	3.40	1.22											.38	.02		.03		.42									8.47
Lewistown	Missouri				.47	.40	.03							.45				.17					.17	.10					T.	.02		1.81
Livingston	Yellowstone																															
Lonetree	Missouri				.62	.59	.75	.14						.16				.38					.30									2.94
Malta	Milk				1.76	.72	2.33	.05						.45				.20					.15	.03	.12							5.81
Medicine Lake	Missouri				.90	.15	1.35	.04						1.55	.10								.14	.11	.10				.07			4.51
Melstone	Musselshell																															
Mildred	Yellowstone	T.		.02		1.37	.57							T.				.07				.06	T.		.04							2.13
Miles City	do			.01		.79	.44	.26						.04				T.					.02	.02	T.							1.58
Norris	Madison																															
Nye	Yellowstone			.30		.35	.03	.02						.03							.20		.10	.08	.10							1.21
Olsen Creek	Jefferson			.53		.20	.10	.05						.39				.04				.03										1.34
Pipestone Pass	do	.02		.45		.51	.30	.10						.45									.11		T.							1.94
Poplar	Missouri				1.76	.12	1.14	.27						.41	.07			T.			T.		T.		.22							3.99
Red Lodge	Yellowstone	T.		.03		.24	.10	.06															.04		.18	.09						0.74
Renova	Jefferson		T.	.03	.08	.39	.40							.73									.06		T.				.06			1.75
Ryegate	Musselshell			2.13		.25	.02							.05										.20	.28			.10				3.03
Seville	Marias			.10	2.00	.80	.70	.02										.01					.40					.02				4.05
Shelby	do				2.43	1.54	.24		.04						.52			.05					.52									5.34
Sidney	Yellowstone				.63	.15	1.53	.29	.01					.05	.03			T.	T.				.01	.10	.20			T.	.18				3.18
Spokane Ranch	Missouri			.41	.04	.46	.04						.02	.15									.08									1.20
Springbrook	Yellowstone																															
Stearns	Missouri			*	*	*	3.20																*	.42								3.62
Sunlit Farm	Milk			.67	1.68	1.25	1.29	.01						.21	T.	.01		.30	.01		T.	T.	.30	.07	.07				.01				5.88
Sun River Canyon	Sun																															
Three Forks	Madison			.10			.67							.42	.07								.02						.06			1.34
Tokna	Yellowstone				.45	.35	1.69	1.01						.11			T.						.11		.05				.05			3.82
Trail Creek	do			.27		.19	.27						.18	.34								.36			.12							1.73
Twin Bridges	Jefferson																															
Utica	Missouri			.42		.30								.07	.02								.13		.03				.05			1.02
Valentine	Musselshell				.57	.32	.63	T.						.12		T.			.04				.03									1.71
Valier	Marias			.18	1.87	.86	.95	.06						T.				.09	.02				.24									4.27
Virginia City	Jefferson and Madison.	T.	T.	.10		.41	.31	T.						.64									.13		.04	T.						1.63
Wall Rock Mountain	Missouri		T.	.17	.08	.21	.11							.95				.05					.09									1.66
Warm Springs Creek	Madison			.21		.26	1.13	.01						.59									T.	T.	.35				.03			2.58
Wheaton	Musselshell				.19	.10	.03	.04						.06									.04	.25	.43				.49			1.63
White Sulphur Springs.	Missouri		.01	.05	.01	.12	.10	.01						.54				T.					.11	.08								1.03
Wilder	do																															
Wolf Creek	do			.09	.83	.53	.62	.04	.01	T.				.04		.01		.01					.12	T.								2.30
Woodville	Jefferson			.41		.28	.17							.32				T.					.01		T.							1.19
North Dakota.																																
Aplin	Knife				.71	.11	1.05	.08	.10	.01				T.	.06			.13	.05		T.				T.				T.				2.30
Beach	Little Missouri				.02	.02	1.20	.52	.04		T.								.14					.04		.09							2.07
Belfield	Heart						1.80	.28	.10				.01	.04				.05	.04					.01	.01			T.					2.34
Berthold Agency	Missouri				.37	.12	.78	.05	.04					.07				.06			.01		.07		.02			.02				1.61
Bismarck	do	.05			.40	.18	1.06	.16	.05					T.	.06		T.	.07	T.		T.		T.		.08		T.	.08				.07	2.26
Broncho	Knife					.10	1.85	.27	.17					.12					.11													2.62
Buford	Missouri				.54	.22	1.45	.12						T.	.72			T.	.01				.01	.01	.02				.14				3.24

TABLE 2.—*Daily precipitation for September, 1911. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
North Dakota—Con.																																
Dickinson	Heart	T.			T.	.03	2.10	.24	.09	.01					.01			.15			T.	T.	T.								2.63
Edgeley	James				.29	.40	1.00	.05							.30										.03				.14		.08	2.43
Epping	Missouri				.62	.22	.96	.08						.43					.03		.12		.13		.06	.11	T.	.40				3.16
Flasher	Cannon Ball																															
Fullerton	James	T.		.04	.40		1.16	.05						T.	.28			.08		T.	T.	.05							T.		.24	2.30
Garrison	Missouri				.48	.12	.87	.04	.04					.11				.03	.08		T.											1.77
Haley	Grand						.88	.28	.01					.04	.04			.12					T.	T.	T.				T.	T.		1.37
Hettinger	Cannon Ball																															
Howard	Missouri	T.			1.04	.77	1.63	.07	T.					T.			T.			.01		T.	T.	.17	.27			T.	.33			4.29
Jamestown	James	.35			.40	.25	.20	.95	.50	.15				.05															.05			2.90
Lamoine	Missouri	.10			T.	*	.92	*	.17					T.	.10						T.		T.						T.		.36	1.65
McHenry	James					.25	.35		.11									.33	T.			.13			.04	T.		.05				1.26
Marmarth	Little Missouri		T.			T.	.62	.56	T.		T.				.32			.29	T.				T.	.06							1.85
Marstonmoor	James	T.			.43	.20	.63	T.	T.				T.	T.	T.			T.	T.		T.	T.			T.			T.		T.	1.26
Medora	Little Missouri					T.	*	1.58						T.										.08							1.66
Melville	James	.10				.65	.60		.17						.05							16						T.		T.	1.73
Mott	Cannon Ball	.01				.19	.91	.14						.32				.05							.20					T.	1.82
Napoleon	Missouri	.09			.05	.16	.53	.09	.05	.02					.21				.01			.07									1.28
New England	Cannon Ball																															
New Rockford	James				1.90			.16						.20				.18			.08			.11		.14					2.77
New Salem	Heart				2.72	.10	1.58	.08								.10		.04			.02			.22	.04				.03	.05		4.98
Orange	Cannon Ball																															
Schafer	Little Missouri																															
Steele	Missouri																															
Washburn	do				.81	.13	.93	.06	.10				T.		.40			.18	T.		T.							.10		T.		2.71
Williston	do				.59	.08	.62	.03						.58				.02	T.		.01		.01	.09	.03		T.	.13	.06			2.25
South Dakota.																																
Aberdeen ‖	James	T.	T.	T.	.05	.20	1.00	.45	T.		.05			T.	.35			.15	.05						.05				.04		.40	2.79
Academy	Missouri			.02	.28	T.	.31	.02	.31	T.				T.	T.			1.08			.06				T.	.07	T.		.08		.58	2.81
Alexandria	James				.40		.15		.15	.16								.25			.20				.20						.90	2.41
Ardmore ‖	Cheyenne						.53		.10																							0.63
Armour	Missouri			.20	.10		.20		.20																						.80	1.50
Bellefourche	Cheyenne					.03	.33	.26						.16																		0.78
Brookings	Big Sioux				.78		.87		.03									.33			.13	.05			.24	.10		.09		.46	3.08
Camp Crook	Little Missouri		.02			T.	.35	.57							.06			.09						.01	T.						1.10
Canton	Big Sioux			.46			.28											T.			.16				T.	.11				.92	1.93
Cascade Springs	Cheyenne					.08	1.08	.07															T.					.05		.14	1.42
Castlewood	Big Sioux	T.			.51	T.	1.08	T.	T.	T.					T.			.06			.12	.01			.01	.06	.07	T.	.24		.20	2.36
Centerville	Missouri			T.	.28		.38		.02									T.			.23			T.	.02	T.	T.		T.		.79	1.72
Clark	James			T.	T.	T.		1.42		T.		T.			T.			.07			.11				.04		T.		.30		.24	2.18
Cottonwood	Missouri			T.	.10	T.	1.20	.05			.02												T.			.02					.20	3.59
Custer	Cheyenne	.10					.65																.10									0.85
Daviston	Grand																															
Deadwood	Cheyenne		.35				.55																								.20	1.10
Deerfield	do		.03			.05	.23	T.															.02		T.			.01	.03		.18	0.55
De Smet	James			.75			1.40			.15								.18							.25		.25		.40		.50	3.88
Dowling	Cheyenne		T.			T.	1.85		.06	T.				.05														T.		.50	2.45
Dumont	do		.21				.11																								.13	0.45
Eales	Missouri	.01		T.	T.		.80	.02		.02					T.			T.			T.			T.	T.				T.		.79	1.64
Edson	Cheyenne						.60	.08	.12	T.	T.	T.		.24																	.02	1.06
Elk Mountain	do		T.		.03	.18	.14																.03								.15	0.53
Ellingson	Grand																															
Englewood	Cheyenne		T.				.70	.30																							.30	1.30
Eureka	Missouri	.03					.74						T.	.08				T.	T.			T.			.01						.29	1.15
Fairfax	do			.08	.01	.17	.33	T.	.20	T.											T.	T.				.20					.38	1.37
Faulkton	James				.27		1.38			.02					.02			.02			.03				T.			.02			.60	2.36
Flandreau	Big Sioux				1.40		.50		.10	.90								.95			.15										.55	4.55
Forestburg	James			.07	.41		.53		.04	.13								.09			.04				.40		T.		.18		.65	2.54
Frederick ‖	do						1.72														.05			T.	T.						.36	2.13
Gannvalley	Missouri					1.10		.28		.40								T.			.27				.36		T.		.14		1.00	3.55
Greenmont	Cheyenne		.25				.40	.15						.15																.55		1.50
Greenwood	Missouri			.16		.15	.60	.08			.06										.10				T.						.59	1.74
Hardy Ranger Station.	Cheyenne																															
Harveys Ranch	do						.20												T.												.20	0.40
Hermosa	do		T.			.13	1.18	.03																								1.34
Highmore	Missouri			.05	.09		1.85	.02	T.	.03											.06			.03							.93	3.06
Hopewell	Cheyenne						2.10	.10						T.										T.							.87	3.07
Howard	James		.02	T.	.37		.43			T.				T.				1.26			.13			T.	.02	.20	.06		.26		.78	3.53
Howell	do			.02	.15	T.	1.83	.04		.02				T.	T.			.05			.21		.01		.01	.01	T.		.01		.59	2.95
Huron	do	T.		.10	.02		1.28	T.		.05				T.				T.			.09				T.	.14	T.		.10		.32	2.10
Ipswich	do				.40		1.50	.15							.90			T.													.70	3.65
Kadoka	White					.16	1.00	.15															T.					T.	T.		.49	1.80
Kennebec	Missouri			T.	.17	T.	1.30	.06	.34	T.											.28				.39	.09		.02		.21	2.86
Kidder	James																															
Kimball	Missouri				.06	.02		.76		.31	.16			T.		.52		.05			.06				.33			.20		.88	3.35
La Creek	White																															
La Delle	James					2.20	T.								T.			.15				T.			.03			.25		.23	2.86
Lead	Cheyenne		.21				.57	.02																							.20	1.00
Lemmon	Grand																															
Manderson	White						.58	.54	.08												.03		.02		.06	.15					.02	1.48
Marion	Missouri	T.	T.	.14	.95		.25	.34		T.	.20				T.						.26				.24	T.		T.			.98	3.36
Marston	do				.21	.01	1.15																						.10		1.48	2.95
Mellette	James	.01			.30		1.19	.02		T.	.03		T.	T.	.02			.03			.14			.05	T.	T.	T.		.07		.65	2.51
Menno	do			.40		T.	.22		.06												.28			T.		.22	T.				.72	1.90
Milbank ‖	Minnesota	.03			.52	.24	.92	.66	T.						.02				T.			.31				.04			.04	.41		3.19
Mitchell ‖	James			.10			.37		.15	.40								.63			.12				.20		.04	.10		1.08	3.19
Mobridge	Missouri				.16		1.25							.10				T.												T.	1.51	
Murdo	White			.40			1.00		.40																						.40	2.20
Oelrichs	Cheyenne				1.22	.17	T.																									1.39
Onaka	James		T.	.15	.05	1.43	.04	.01			.03			.60										.09	T.			.02	T.	.58	.35	3.35
Orman	Cheyenne					T.	.21	.33						.15																	.05	0.74
Ottumwa	Missouri			.05	.05	1.54	.20																T.								.50	2.34
Parkston	James			.65		.15			.08					.03				.53			.18				.28						.65	2.55
Pierre	Missouri			.03		.39	1.18	.01		.04				T.							.01		.01		.01		.01		T.		1.10	2.79
Plankinton	James	T.				.08	.45	.25		.03					T.			.16							.06	.16			.04		.96	2.19
Pollock	Missouri	.02				.12	1.12	.30							.10											.05					.02	1.73
Rapid City	Cheyenne		T.	T.	T.	.40	.36	.03			T.			T.									.05		.01					.05	.02	0.92
Redfield ‖	James				.50		1.15	.06			.07							.03				.15							.02		.25	2.23

TABLE 2.—*Daily precipitation for September, 1911. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
South Dakota—Con.																																
Rochford	Cheyenne					.23	.06																		T.			T.			.15	0.44
Rosebud	White			.01		T.		.52	1.00	T.											.13		T.		T.	.17					.04	1.87
Rosebud Agency	do																															
Roslyn	Big Sioux				.57	T.	1.55			T.											T.			.15			T.		.48		.65	3.40
Selby	Missouri					*	1.10							.04																	.35	1.49
Sioux Falls ‖	Big Sioux			2.40			.25	.07											.15			.27				.08						3.22
Sorum	Grand					.63		.07						.27																	.08	1.05
Spearfish	Cheyenne																															
Stephan	Missouri			T.	.34		1.58		T.	T.			T.	T.		.04					.49			T.	T.	.08	.07		.03		.98	3.61
Tama	Cheyenne																															
Tyndall	Missouri			.68	.07		.57											.05			.21	.02		T.	.04	.02	T.				.59	2.25
Vale	Cheyenne		T.			.04	.65	.14		T.				.12										T.	.02	T.				T.	0.97
Vermilion	Missouri		.08		.08	.17	.46				T.										.15								T.		.57	1.51
Waters Ranch	Cheyenne		.09				.71							.11												.05			.04		.08	1.08
Watertown ‖	Big Sioux				.32			1.32											T.			.18				.03						1.85
Wentworth	do			T.	1.61		.52		.17	.61								1.76			.29				.02	.16			.05		.76	5.95
Wessington Springs	James		T.	.06	.06			T.	.27	.45								.05			.26				T.	.40	.20		.28		.55	2.58
White Lake	Missouri				.10			.46	.19	.11								.17			.11					.17		.42			.85	2.58
Winner	White																															
Yankton	Missouri			.21	.05	.01	.81		.01						T.			T.	T.		.40			T.	.10						.69	2.28
Minnesota.																																
Pipestone	Big Sioux			T.	1.10	.05		.51	.12	.78	.05							1.01			.23		.02			.15	.02		T.	T.	.54	4.58
Colorado.																																
Akron	Republican		T.	1.70	.40						T.	T.			T.	T.														T.	2.10
Albion Lake	South Platte	.15	.30	.30	.10								.20		.13			.04			.07			.02			.37			.28	.73	2.69
Alma	do																															
Arriba (near)	Republican		3.40	.38					T.	T.					T.	T.													.06		3.84
Auldhurst	South Platte	.07			T.								T.		.15	.55				.15									T.	.15		1.07
Bennet (near)	do		.17													.27																0.44
Boulder	do			.21												.02													.01	.02		0.26
Burlington	Republican	.30	.40						.05											.09									1.02			1.86
Cassells	South Platte	.11	.16	.20													.21			.22									.27	.23	1.40
Castle Rock	do	T.	.18												T.	.53												.14	.10		0.95
Cheesman	do	T.	T.	T.	T.					T.			T.	.10	.15	.75				T.							T.	T.	.10	T.	1.10
Cheyenne Wells	Smoky Hill		.07	.06					.06	T.										.02								T.	T.	.20	.03	0.44
Cope	Republican		1.74	.02	1.75																									.33	.03	3.87
Corona ‖	South Platte	.32	.02		.22		.38									.48					.18									.21	.39	2.20
Denver	do	.03	.23	.05									T.		.10	.01				T.	T.						.01	T.	T.	.07	.25	0.75
Edgewater	do	.12	.04	.02											.15															.10	.20	0.63
Estes Park Fish Hatchery	do	T.	T.	.07			.07								T.	T.		T.	T.		T.							T.		.18	.22	0.54
Fort Collins	do	.14		.05		T.									T.												T.			T.	.61	0.80
Fort Lupton	do															.10															.08	0.18
Fort Morgan	do			.12												.12											T.				.05	0.29
Frances	do			.21										.10		.07			T.							.08			.25	.10	0.81
Frys Ranch	do	T.		.04			.19						T.											.17		.13				.11	0.64
Georgetown ‖	do	.30	.08	.03		.04					.02			T.	T.	.05				.21						T.		.11	.13	.27	1.24
Greeley	do	T.				.01							T.		.08												T.		T.	.08	0.17
Grover	do																															
Hartsel	do	.02	T.	T.						T.					.61					.33								.03	.02	.34	.04	1.39
Hawthorne	do	T.		.05										.11	.14	.03															.08	0.41
Holyoke (near)	do		.44		.09										.20												T.					0.73
Idaho Springs	do	.20		.25						T.			T.	.16		.06												T.	.12	.07		0.86
Keota	do			1.06											T.	T.								T.						T.	.05	1.11
Laporte	do														.20									.01							.16	0.37
Leroy (near)	do																															
Longmont ‖	do			.03									.02		.06												.06			.02	.60	0.79
Longs Peak (near)	do	.12	.30	.09	.04		.04									.02		.09							.01		.02			.16	.07	0.96
Moraine Park	do	.05	T.	.06		.08																								.29	.26	0.74
Platte Canon	do			.15																											.08	0.23
St. Cloud	do																															
Sedgwick	do	T.		.43				T.			T.					.02								T.	T.		T.			.22	T.	0.67
Sill Mine	do																															
Spicer (near)	do				.32		.04			T.			T.		.10									.30				T.	T.	T.	.20	0.96
Sterling	do		.60	.44													.09															1.13
Waterdale	do			.05		.02									.09												.02			T.	.09	0.27
Wray	Republican		.49					.11	.05						.11															.15		0.91
Yuma	do			.90				.12								.10											T.			.10	.08	1.30
Nebraska.																																
Ainsworth	Niobrara	T.		.28	.15	T.	.65	T.	.27	T.	.10		T.	.24	.60						.45	.04		T.	.03						.02	2.81
Albion	Loup		.13	.09	.10		.02		.06		1.17										.34										.61	2.52
Alliance	North Platte						T.		.55															T.	.25	T.						0.80
Alma	Republican							.46		.02				.04		.01					.09					.27	.01			.27	.21	1.38
Anoka	Niobrara			.10			.55	.18													T.			T.		.13	T.			.31	1.27
Arden	Loup	.08		.01	.01		.02	.01		1.60									.09		.20			.08						.40	2.50
Ashland	Platte		.01	.03			.03	.10	T.	T.	.47	T.	T.			T.					.20				.03	T.		T.	.02		.95	1.84
Atkinson ‖	Elkhorn				.12		.90		.10		.07			T.								.20			.17		T.	T.				1.56
Auburn ‖	Little Nemaha			1.10					.90	.47	.44					T.	.02					.63			.22	.03	.02		T.		.04	3.87
Beatrice	Blue			.14				T.	.51		1.70									.60					.05	.05				.03	1.67	4.75
Beaver City	Republican		.24	.03					.28	T.										T.						.39	T.		.14	.25		1.33
Bellevue	Missouri			.01	T.		T.		.17	.15	.24										.30				.03						2.15	3.05
Blair	do		.02				.04		.07		.18		T.		T.			T.			.17				.03				.11	T.	.55	1.17
Bloomfield	do			T.	T.	.22	.90							.08											T.		T.				.43	1.63
Bridgeport	North Platte			.15			T.	T.	T.				T.																			0.15
Broken Bow ‖	Loup		T.	.81					.17	.08	.19	.01				.05					.65			.12	T.					.05	.12	2.25
Burge	Niobrara																															
Callaway	Loup			.73					.33		.46										.52							.54				2.58
Cambridge	Republican	T.		.02					.04	.08			T.	T.								.20					T.			.10	.10	0.54
Canton (near)	North Platte		T.						.60									T.					T.		.35	T.	T.			T.	.04	0.99
Columbus ‖	Loup		.06	T.	T.				.12	T.		.30										.02								.06	.23	0.79
Creighton	Missouri																															
Crete	Blue				1.15					.30	T.	.68									.30				.45						.92	3.80
Culbertson ‖	Republican		.15		.10																										.28	0.63
Curtis	do	T.	T.	.14	T.			.26	.02	3.00			T.		T.	.02					.28				.07	T.	T.		T.	T.	T.	3.79
David City	Blue		.11	T.		.05	.04	.06	.25		.26				T.			.06			.42								.03	T.	.55	1.83
Dawson	Great Nemaha																															
Dumas	Loup		.02	.17					.05	.96											.38				.23						.19	2.00

TABLE 2.—*Daily precipitation for September, 1911. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Nebraska—Con.																																
Elsie ‖	Republican									.05				.05							.32				.16		.01				.25	1.28
Ewing ‖	Elkhorn			.26		.13	.05								T.	T.	T.			.06	.47			T.	.05	T.	T.	.07		.84	2.80	6.33
Fairbury ‖	Blue							.22	.12	1.70												.53			.59						2.93
Fairmont ‖	do		.04	.39				.31	.21	.69																					.17	
Fort Robinson ‖	Niobrara						.29	.03	.12															.25		.06					.01	0.76
Franklin	Republican		.02					T.	.79			.04			T.						.20					.12				.30	.28	1.75
Fremont	Platte						.05	.05	.06		.28										.12				T.				.10		.44	1.10
Fullerton	Loup						.13			6.18											.45									1.25	8.01
Geneva	Blue			3.70				T.	.55		.58	T.	T.		T.						.54				.16	T.	T.			T.	.27	5.80
Genoa	Loup		.01	T.		.01	.15	.01		1.50	T.	T.			T.	T.		T.			.30			T.	.04		T.		T.	T.	1.15	3.17
Gordon	Niobrara				.10			.84																							.29	1.23
Gosper	Republican			.05				.07	.30	2.50						.02					.25				.15		.05		.10		.21	3.70
Gothenburg	Platte		T.	1.00				.45	.05	.05	1.60					T.					.30					T.	.05			T.	T.	3.50
Grand Island ‖	do			.20				.10	.06		3.34		.68			T.			T.		T.	.80			.05				T.		.31	5.54
Grant	Republican	.06	.48	T.				.05		.02						T.					T.				T.		.10				.10	0.81
Greeley	Loup	.05		T.		T.	T.	.09	T.		.13	.09			T.	T.									.05						.32	0.73
Halsey	do		.30	.07				.05													.20				10						.08	0.80
Hartington	Missouri				.22		T.	.15						T.								.38									.10	0.85
Harvard	Blue																															
Hastings ‖	do		.11	.65			.03	T.	T.	.59	.72										1.17				.20						.16	3.63
Hayes Center	Republican		.48	T.	.08			.28	T.	T.					T.	.02					.10				23	T.	T.			.10	.05	1.34
Hay Springs	Niobrara					.26		.80						T.									T.	.09			T.	T.		T.		1.15
Hebron	Blue		T.				T.	.18	.03	.12						T.		.02			.39				T.	.05		T.	.02	.17	1.42	2.40
Hemingford ‖	Niobrara						.10		.68																.20	.07					.02	1.07
Hillside	North Platte			.33	.42			.08	.03						T.						.03				.09		.06			.02	.06	1.12
Holdrege ‖	Republican			.05				.13		.16												.52									.10	0.96
Hooper	Elkhorn		.26						.28												.18								*	*	1.75	2.47
Hull (near)	North Platte		.71																													0.71
Imperial	Republican	T.	.17	.76				.42	.02	.03					T.	.04									T.	T.	T.		T.	T.	1.44	
Kearney	Platte							.10		1.92										.77					T.						.50	3.29
Kimball	South Platte	T.	.85	.02		T.	T.	.05						T.					T.										T.	T.	.50	1.42
Kirkwood	Niobrara			.22			.67	.18													.09				.10	T.					.20	1.46
Kowanda ‖	North Platte		.15	.31																											.04	0.50
Lexington	Platte			.10				.19	.16		.54										.55				.04						.26	1.84
Lincoln	do		.64	.71			T.	T.	.29	T.	1.53			T.	T.	T.					.23				.59	T.		.03	T.	T.	.82	4.84
Lodgepole	South Platte			.11	.15																						T.					0.26
Loup	Loup			.14				.18	.07	.10						T.		T.			.73		.40							T.	.23	1.85
Loyal	do							T.													.20				.18							0.38
McCook	Republican				.12																.19									.28		0.59
Madison	Elkhorn						T.	T.	T.	T.	.14								T.		.19				T.						1.25	1.58
Marquette	Platte		T.	.56			T.	.10	.02		1.44	.06			T.			.32			.54				.02		T.				.65	3.71
Mary	Loup			.07	.12		.22		.31	.10		T.									.31				.12						.17	1.42
Minden	Blue		.20					.01	.29	.72		.20			.01		.03				.91				.03		.02			T.	.45	2.87
Mitchell ‖	North Platte	.21	.01				T.	.97																T.	.35	T.					.09	1.63
Mullen	Loup	T.		.47			.46	T.	.33	.12											.14			.12			.04				.01	1.69
Nebraska City	Missouri			.70					1.15		1.15							.65			.93			2.00						3.00	9.58
Norfolk	Elkhorn		.08	.06	T.	.07	T.		T.	.15												.09									.80	1.25
North Loup	Loup		.05	.30	T.			.18	T.			T.									.68				.07						.25	1.53
North Platte	Platte			.38				.09		.61					.01	.04			.04		.07				.06		.01			.02	.04	1.37
Oakdale	Elkhorn	.17		.09	.26		T.			.07		T.			T.			T.	.10		.20				.04		T.				.30	1.23
Omaha	Missouri		.01				.03	.01	T.		.32				T.	T.					.18				.01			T.	.01		1.98	2.55
Ord	Loup			.15							.06										.68										.40	1.29
Palisade	Republican		.24				.08								.03															.18		0.53
Pawnee City	Great Nemaha								.93		2.50										.55						.08		.20		.40	5.20	9.86
Paxton	South Platte		T.	.34	.40			.02	.02	.02	T.	T.							T.		T.			.04	.01	.02				.05	.10	1.02
Plymouth ‖	Blue			.07					.62		.95										.48					.10				.60	2.00	4.82
Purdum	Loup			.26	.07		T.		.25	.28				T.							.21				.12						.06	1.25
Ravenna	do							.28		.25											.72				.04	T.		.03		T.	.38	1.70
Redcloud	Republican		T.					T.	.63	.01			T.		.05					T.	.46	T.				.26				.35	.41	2.17
St. Libory	Loup		.58						.27		.27	.70				T.					.63	.01		T.							1.14	3.60
St. Paul	do		T.	.14				.24	.21	.20											.60										.53	1.92
Santee	Missouri				.93	.20	.17	.60													.25						T.				.70	2.85
Sargent ‖	Loup		.90					.25	.15	.11	T.										.55									.15	T.	2.11
Schuyler	Platte		T.	T.		.10	T.	T.	.07	T.	.27										.34								.05		1.45	2.28
Scottsbluff	North Platte	.04	.02	.02			T.	.29	.09						T.									.03	.35	.05		T.	.03	T.	.06	0.98
Seward ‖	Blue		.65					.35	.25	2.65				T.			T.				.45	T.	.10		T.					.25	.10	4.80
Sidney	South Platte			.55						.15						.05														.01	.01	0.77
Springview	Niobrara			.20	.10		.45	T.	.23												.25				.05	.05			.02		.35	1.70
Stanton	Elkhorn														T.						.25				T.						1.50	1.75
Stratton ‖	Republican																														.33	0.33
Superior ‖	do									.45												.35									.80	1.60
Syracuse	Little Nemaha			1.39				.88	T.								T.	.07			.43	T.			.79	.03	T.			T.	2.90	6.49
Tecumseh	Great Nemaha			.34					1.80		.75								.32	.20	.70				.35	.13				.20	2.50	7.29
Tekamah ‖	Missouri		.20					.32			.10											.15				.10				.30	.02	1.19
Tobias	Blue									.50											.38			T.	.10	1.05					.80	2.83
Valentine	Niobrara			.18	.01		.98	.39					.05								.41				.03		T.		.08		.04	2.17
Wahoo	Platte									.28											.20										.65	1.13
Wakefield	Elkhorn				.14	.07	.66														.08				.04						1.36	2.35
Walthill ‖	Missouri					T.		.45			.02											.13				T.					T.	0.60
Watertown	Platte							.16	.34	.90											.86										.42	2.68
Wauneta	Republican		.80	.55			.20								.10					.05											.10	1.80
Weeping Water	Missouri		T.	.58			T.		.72		.92							T.			.33				.18			T.	.01	T.	1.30	4.04
Westpoint	Elkhorn			T.			T.	T.			.26										.30										1.73	2.29
Wisner	do				.11	.21					T.										.17										1.58	2.07
York	Blue		T.	1.49			T.	.05	.25		2.08				T.	T.		T.			.55				.11	.01			T.		.37	4.91
Iowa.																																
Afton	Missouri			.07	.11		.10		.19	.09	.20				T.				T.		T.	.37		.25			.05	1.52		.81	3.76
Allerton	Chariton			.14	.87	.97	1.28	.40	.16		.24				T.	.04		.26			.15	.35			.77	T.	.17	.56	.25	.24		6.85
Alton	Floyd				.49	.41	.42			.03								.17			.13			.14	.02						1.13	2.94
Atlantic	Nishnabotna		.03	.03			T.	.01	.03		.11			T.	T.	T.		T.			.22	.03			.07				.28	.08		1.25	2.14
Audubon	do						.51														.73								1.53		2.15	4.92
Bedford	Missouri			.45	.02		T.		.65		.26	.03				T.		.07	.10		.28				1.08	T.	.03		.55	.01	1.06	4.60
Centerville	Chariton			.12	.05		.75	.70			.18			.20	.30		.45		.16		.17	.44			.41	.20		.20	2.00	.20	.30	6.83
Chariton	do			.20	T.			1.35	.15		.40			.12	.14	T.		.16	.60		T.	.20			.55	T.		T.	1.50	.15	.83	6.35
Clarinda ‖	Nodaway			.26		T.	T.	.19		.14	.30											.45			.70	.15		.05	T.	T.		2.69
Corning	do				T.	T.	T.		.35		.36					T.		T.			.42	.04			.64				1.02	T.	.73	3.56
Corydon	Chariton			.14	.12	T.	1.17		.45		.12			T.	T.	T.		.48			.12				.97	T.	.10	1.75	.05	T.	.47	5.94
Council Bluffs	Missouri		T.		T.		T.	T.	.07		.30				T.	T.		T.			.25				.03				.42		2.00	3.07
Creston ‖	do			.05				.08	.10	.09	.22								.07		T.	.35			T.	.82		T.	1.39	.03		3.20

TABLE 2.—*Daily precipitation for September, 1911. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Iowa—Continued.																															
Cumberland	Nodaway			.12	T.		.08				.08								.99		.30				.06						2.02	3.65
Denison	Missouri		.01			.40		.03		.02			.10								.39	.02		.05	.12				1.01		.96	3.11
Elliott	Nishnabotna			.09					T.		.24				T.				.39		.27				.08		.02	.25		.65		1.99
Greenfield	Nodaway			.09			.21		T.		.21										.42	.14			.16				.42		.72	2.37
Harlan	Nishnabotna		T.		T.		.31	.01			.10			.03							.23	.02		T.	.05				.07		3.20	4.02
Inwood	Big Sioux				.41		.22											.14			.20				.03	.04	T.				.85	1.89
Lamoni	Missouri			.22	.28	.07	.84	.18	.17		.25					.27		.03			T.	.37			.93	.02		.12	.42		.16	4.33
Larrabee	Little Sioux						1.15			.25											.40	.05									1.50	3.35
LeMars	Floyd			.31	.39	.33	T.	T.			.02				T.			.18	.02		.09	T.				.01					1.20	2.55
Lenox	Missouri			.03		.08			.15	.40	.20								.47		.40				.30				.67		1.30	4.00
Leon	do			.32	.15	.25	.25	.20										.T.			T.				1.80	T.	T.		.88		.33	4.18
Little Sioux	Little Sioux						.33	T.	.01		.04										.11	.03			.09				.16		1.16	1.93
Logan	Missouri		T.				.09	.04	.05		.12										.15	.06			.05				.06		.57	1.19
Mount Ayr	do			.25	.06	.06	.05		.20		.52	.05				.10		.11	.24		.28	.04		T.	.63		T.	.06	.25	T.	.88	3.78
Murray	do			.07	.02		.17	T.	.20	.08	.18					T.			.17		.39	.06		.03	.13			.03	1.19	T.	.81	3.53
Odebolt	do				.43		.77							T.							.17	.11		.10	.03				.58		1.93	4.12
Onawa	do		.03		.03		.85				T.								.01		.15	.03			.10				T.		1.20	2.40
Pacific Junction	do			.29				T.	.32	T.	.45					T.		T.			.29				T.		T.	T.	T.	.80	2.15
Rock Rapids	Big Sioux				2.35		.23		T.	.20								.28							.24						1.00	4.30
Sheldon	Floyd			T.	.85	.05	.40	.05		.25	T.		.02					.25			.35	T.			.05	.05		T.	.05		1.10	3.47
Sibley	Big Sioux				1.82	T.		.44			.86								.37			.27			T.	.02				.11		3.89
Sioux Center	Floyd				.73	.11		.46			.10							T.			.19			T.	.02				.02		.82	2.45
Sioux City	Missouri			.02	.04	.24	.80			T.				.42	T.			T.	.01		.10	.01			.07	T.	T.				1.43	3.14
Spencer	Little Sioux						.67			1.10								.50			.20			.17							1.55	4.19
Thurman	Missouri		T.	.55				T.	.47		.86				T.	T.		T.	.08		.53				.70	.02	T.	.01	T.	T.	1.21	4.43
Washta	Little Sioux					.05	.69				.45			.30				.40	T.		.22		.06		T.			T.	T.		1.30	3.47
Woodburn	Chariton			.05	.03		.77		.05	.03	.12			.13		T.		.05	.38		.20	.11			.23			.08	1.59		.78	4.00
Kansas.																															
Abilene	Smoky Hill								.08			.40					.06	.40			.04	.72								.04	.78	2.52
Agricultural College	Kansas				.20		T.	.29	.05	.02	.21					.20	.65	.30			.62	T.		.05	.55			T.	.30	1.05	4.49
Alton	Solomon						T.	.06	.09									.19			.02				.10			T.	.68	1.20	2.34
Atchison	Missouri				T.			T.			4.50	.88				.58		.15	.12		.70				.08	.15	.25		.18	.09	7.68
Beloit	Solomon							T.	.14	.01						.12		.22			.42	.03			.27	T.				1.81	3.02
Blakeman	Republican									1.13											.16								.43	.06	1.78
Blue Rapids	Blue																														
Centralia	do								.05	T.	1.80					.30		.07			.57				T.	.07			.15	.80	3.81
Chapman	Smoky Hill						T.	T.			.25					T.			.37		.72					.10			.46	.44	2.34
Clay Center	Republican										.60					.20		.42			.55					.15			.65	1.90	4.47
Colby	do							.03	.05	.01											.02						T.		.02	1.00	.15	1.28
Concordia	do							.01	.20							.14		.09			.68	.01			.28					.93	.93	3.27
Densmore	Solomon							.05	.46												.06				.08					.79	.25	1.69
Dresden	Republican						T.	T.	.08												T.						T.		T.	.03	1.46	1.57
Ellsworth	Smoky Hill						.05	.52	.08							.10		.06			.46									.42	.20	1.89
Enterprise	do							.17			.33							.36	.06	.73		.01			.03				.08	.60	.07	2.44
Eskridge	Kansas				.04		.07	.02			.30	.03			.10	.05		.07	.07	.63					.03				.09	.08		1.58
Farnsworth	Smoky Hill							.23	.13	.01						.04														.09	.54	1.04
Fort Scott	Osage					.08		1.21	.40		T.	.04					8.00	.20	T.	.38		.20							T.	.67	11.18
Frankfort	Blue								.30		2.10					.25		.08			.57				.40				.22	.67	4.59
Garnett	Osage				.15			.81	T.		.07					.15	.80		.56		.58								.15	T.	3.27
Goodland	Smoky Hill																														
Gove	Blue								.37							.05														.55	0.97
Hanover	do							T.	1.05		.80					.06	T.				.48				T.	.16			.28	.65	3.48
Harrison	Republican							T.	1.22									T.		T.	.35					.07			.45	.59	2.68
Hays	Smoky Hill			.70				.11	.35	.02						.08	.04				.13										.62	2.05
Hill City	Solomon													.05										.20					.13	.65		1.03
Horton	Kansas					T.		T.	T.	T.	1.85	.08				.26	.28	.10	.04			.36			.10	T.	.08				.28	3.43
Hoxie	Solomon								T.	T.											T.								T.	1.30	.15	1.45
Jewell	Republican							T.	.53		.13				T.		.38				.20									1.25	1.33	3.82
Lawrence	Kansas				.03		.30		.06		2.12	1.90			T.	T.	.03	.06	.29		1.02				.02	.01				.12	.25	6.21
Leavenworth	Missouri				T.			.15	.01		2.70	.70				.75	T.	.41	.18		1.17	.06			.23					.55	.07	6.98
Lebanon	Solomon								.40									.08			.10								.05	.50	.18	1.31
Leoti	White Woman				.07			.11	.06							.04														.02	.01	0.31
Lindsborg	Smoky Hill																														
Mankato	Republican							T.	.75	.01								.04			.22									.43	1.50	2.95
Minneapolis	Solomon							.10		.09						.43	.02	T.			.83				T.	T.				.38	1.55	3.40
Moran	Osage				T.			1.44		T.	1.00	.06					3.05		.34		.19									.53	.23	6.84
Natoma	Saline								.40									.60												1.50	1.25	3.75
Norton	Republican							T.	.58	T.										T.	.05				T.				.89	.24	1.76
Oberlin	do			.09				.05	.03	1.00											.03	.02				.05		.04	.63	.13	2.07
Oketo	Blue						T.	T.	.84	T.						.05		.03				.36	.19		.25				.31	1.24	3.27
Olathe	Kansas				.11			.45	T.		3.02	2.00							.47		.72										.15	6.92
Osage City	Osage							T.	T.		.10	.20				.17	T.	T.	.10	.09	T.	.77	T.		T.				T.		.03	1.46
Ottawa	do				.05			.18			.37	.25					.04	.01			.23				T.				T.			1.13
Phillipsburg	Solomon							.04	.60	T.						T.				.02	.10				.10	T.			.60	.20	1.66
Plainville	Smoky Hill																.30								.40				1.10	.90	2.70
Pleasanton	Osage				.20			1.15	T.		T.	.11				.02	1.05		.56		.09								.20	.17	3.55
Republic	Republican								.97							T.		.03			.37								.05	.41	1.20	3.03
Russell	Smoky Hill							.53	T.							.12					.08									.58	.10	1.41
Russell Springs	do								.32								T.			T.		T.									.25	0.57
St. Francis	Republican		T.	1.21	.02			.04													.02								.72		2.01
Salina	Smoky Hill				T.	T.		1.60	T.	T.						.04	T.	.21	T.		.52	.02			.01	T.			.51	.11	3.02
Scott	White Woman							.06	.03							T.													T.	.39	0.48
Smith Center	Solomon								.59											T.									1.57	.76	2.92
Topeka	Kansas				.01		.20	.01	.05		1.02				.73	.13		.06	.15		.85				.33					.25	.66	4.45
Valley Falls	do		.10				.20				1.95	.30			T.	.58		.40	.20		.70				T.	.37	.06			.06	1.15	6.07
Vinland	do							.08			1.23	.24			.01			.26	.29		.96									.02		3.09
Wakeeney	Smoky Hill	.03	.07	.02				.23	.25							.08					.05									1.26	.66	2.65
Wallace	do								T.																					.47		0.47
Wamego	Kansas				.02		T.	T.		T.	1.00					.35	.02	.35	.20		.80			.10		.30			T.	.32	1.35	4.81
Missouri.																															
Amoret	Osage				.18			1.05	T.	T.	.14	T.				.09	1.35		.42		.12	T.								.20	.08	3.63
Appleton City	do				.30			.45				.40				1.72	1.31		.30	.59											.95	6.02
Arthur	do				.30			.87			T.					.83	4.15		.30		.06									.30	.44	7.25
Avalon	Grand				.50			.75			.85					.44		.17	.04		.45	.12			.05	.24			.32	T.	.55	4.48
Bethany	do								.50		.53					.20		.40			.24				1.96	.36		.23	.30	.42	.19	5.73
Bolivar	Osage				.34	.07						.55					5.00	.08	.53	.57	.09	.21								.04		7.48
Boonville	Missouri					.44		3.9			.60	1.68			T.	.02	.78	1.16		.10		.38					.12	1.46				.02	10.65

TABLE 2.—*Daily precipitation for September, 1911. District No. 6*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Missouri—Con.																															
Brunswick ‖	Grand					.66	T.	2.33	.03		1.26	.23	T.			3.63	.03	.29	.11		.90	.58	.03			.34	.36	.07		.36	.26	11.47
Columbia	Missouri				.60		.99	1.60	T.		1.79	.02				1.50		1.62	.08		.23					.23	.07				.14	8.87
Conception	do			.24	T.		.07	.09	1.07		1.09	.21				.12		.26	T.		.30			.06	2.83	.06			.23	.05	T.	6.68
Crocker	Gaconade				.11	.35		.04	T.	T.	.23	1.14					1.91		.10	.13	.28											4.29
Eldorado Springs	Osage				.55	.08		.39	T.	T.	T.	.35					2.25		.40	.10	.16								.22	T.	4.50
Fayette	Missouri				.50			2.70			2.50					.75	.05	.93	.80		.45					.10	.44		T.	.05	9.27
Fulton	do				.36	.19		.81	.06		1.43	.14					2.68	1.40	.10		.23	.07				.04	.13			.10	7.74
Glasgow ‖	do				.34			2.98	.16		.94	.86				1.00		.60	.02	.18		.82					.28		.28		8.46
Grant City	Grand			.27	.07		.75	1.16			.22					T.					T.	.43	T.	.70	.76	.02	T.	T.	.12	.15	.19	4.84
Harrisonville ‖	Osage					.05		.35	.01	T.		3.71					.04		T.	.24		.25				.08						4.73
Hazelhurst	Grand			.09	.05		1.88		.40		.60	.09					.23	.84			.49				.02	.78	.05		1.08	.19	.17	6.96
Hermann ‖	Missouri					1.18		.56	T.	.02	T.	.69				.08	1.38	1.44		.01		.17				.34	1.20	.01		T.	.01	7.04
Houston	Gasconade				.35	.56		.62	.09			.25					.30	1.20	T.	1.73	T.	.27					1.04			.08		6.49
Jefferson City ‖	Missouri					.40		.71	.04	.10	.01	.47				1.75	.05			.08		.92				.15	.30				.02	5.00
Kansas City	do				.07	.01	.42	.04	.02		3.04	.29			.03	.11		.05	.25		.02		.71				.53			.27	.33	6.17
Kidder ‖	Grand				.02	.28		.08	.10	.02	.76	.05	.53			.25	.18	.25		.02		.68				.34	.07				.08	3.71
Lamonte	Missouri				.59			1.36			1.47	1.36				.12			.46	T.	.35	.05			T.	.02	T.			.03	T.	5.81
Lebanon	Osage				.27	.95		.05				.78					3.35		.25	.40	1.20											7.25
Lexington ‖	Missouri					.12		.05			3.70	1.28	.07				.20	.24	.16	.32		1.06				.09	.40				.15	7.84
Liberty	do				T.			T.	.23		3.20	.20					.14		.30		.94					.28	T.			T.	.12	5.41
Lockwood	Osage				.74	.08		.06	T.		T.						4.87	.07	.02	.23	.36	.21										6.64
Marshall	Missouri				.49			.72	.07		3.80	.10				.88		2.30	.51		.86	.06				.03	.63			T.	.33	10.78
Maryville ‖	do			.42		.01		.05	.40	.27	1.00	.05				.04			T.						.25	1.11			.08	.23	.02	3.93
Mount Vernon	Osage				.30			.15	.45	.07							.45		.43	.25	.21	.30										2.61
Nevada	do		.13					1.34	T.		T.					1.00	7.75		.47		.26									.22		11.17
Oregon	Missouri			.03				T.	.95	T.	.84	T.			T.	.21		.09	T.		.31				.11	.05			.11	T.	4.35	7.05
Pattonsburg ‖	Grand			.15			.23		.78		.60					.35		.26		.65					.65	.36	.20		.30		.17	4.70
Rolla	Gasconade				.24	.79	.10	.02			.08	.27					1.59		.10	.15	T.	.33					.01			T.		3.68
St. Charles	Missouri				T.			1.23	.08		.52			.13			3.83	1.09	1.00			1.00				.88	.47		T.			10.23
St. Joseph	do						.03	T.	.01		2.39	.74				.40	.06	.11	T.		.56			.41	.54	.05	T.		.02	.06	.34	5.72
St. Louis (1)	Mississippi				1.16	1.89		.50	.07		.38	T.	.06	T.		.53	.13	.89	.01		.17	.37				.95	.35		T.	T.	T.	7.09
St. Louis (2)	do				T.	2.64		.45	.14		.38	T.		.05			.75	1.49	.03		T.	.14				.25	.98		T.	T.		7.30
Sublett	Charlton			T.	.05			3.00	.20	.30	T.				2.00		1.00	.50	T.	.25	.40				.65	.60	.75	.25	4.25	.75	T.	14.95
Trenton	Grand		.10		.11		.37	.24	1.03	.49	.01				.38	.75	2.52	.05			.58			T.	1.38	.30	.02	.23	.99	.03	2.48	12.06
Unionville ‖	Charlton			.15	.10	.10	T.	2.90	.10	.30	.20	.16				1.10	.08	.70	T.	.14		.72			T.	1.45	.06		1.80	.51		10.57
Warrensburg	Missouri				.17			1.25	.03		1.92	1.86				T.			.93		1.10				T.	T.			T.	T.	7.26
Warrenton ‖	do					.88		.17	.01	.02		.89					2.88	.97				.09				T.	1.25	.03			.05	7.24
Warsaw	Osage				1.52	.08		1.15	.04	T.	.14	.63				.82	.53		.25	.05	.09									.03		5.33
Wheatland	do				.23	.13			.12								3.08	.45												.40		4.41

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for September, 1911. District No. 6, Missouri Valley.*

Date.	Wyoming.																Montana.											
	Basin.		Cheyenne.		Fort Laramie.		Lander.		Newcastle.		Pathfinder.		Sheridan.		Yellowstone Park.		Billings.		Dillon.		Havre.		Helena.		Lewistown.		Malta.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	92	56	81	55	94	40	84	59	91	62	86	58	88	51	77	45	90	48	84	37	76	56	86	53	81	45	80	53
2....	90	48	76	51	78	50	77	48	78	52	83	54	82	44	78	42	86	56	80	36	82	55	79	53	73	56	81	49
3....	80	48	71	51	80	49	78	46	70	48	74	49	81	55	62	45	85	50	78	38	67	56	65	53	74	48	81	54
4....	82	48	79	49	89	41	81	43	84	54	81	44	77	46	69	36	82	46	69	34	57	47	54	42	67	45	66	49
5....	79	48	82	49	91	44	69	41	72	45	80	47	62	52	50	37	54	48	64	35	47	42	43	37	61	37	54	44
6....	60	38	73	42	80	43	64	33	68	42	67	47	62	43	47	31	63	34	60	36	43	40	43	36	47	36	47	37
7....	79	40	66	38	66	45	60	35	65	40	66	33	54	39	49	31	74	45	70	35	50	40	52	37	53	36	53	37
8....	80	39	74	49	77	48	75	31	75	42	77	36	70	36	62	39	55	40	74	31	67	38	64	36	66	34	67	42
9....	87	41	81	48	89	50	81	37	84	52	81	38	76	40	73	40	77	43	77	35	68	38	66	42	69	38	69	38
10....	90	44	83	49	94	59	84	42	84	56	83	47	82	44	74	36	83	42	79	34	75	47	73	45	78	45	77	47
11....	91	40	86	57	96	46	83	46	90	60	84	52	83	44	75	40	83	43	82	39	81	50	76	48	79	42	77	49
12....	92	42	88	53	100	44	81	52	92	60	84	49	89	49	72	44	81	49	80	42	80	52	78	50	82	45	79	52
13....	93	50	80	60	94	52	80	47	94	63	83	62	82	52	64	38	85	55	79	40	74	53	66	50	83	44	75	55
14....	80	39	76	56	80	54	77	35	80	52	73	48	72	39	61	34	78	45	80	33	68	51	70	44	67	43	70	50
15....	81	40	79	48	89	46	81	36	85	42	78	47	85	36	65	38	87	32	78	32	72	46	66	40	72	37	75	46
16....	80	38	79	52	90	47	78	37	74	52	78	48	79	41	58	38	78	42	73	32	64	44	56	36	61	32	71	40
17....	84	41	66	40	73	46	60	38	65	41	75	44	60	40	49	29	72	37	72	30	49	44	52	41	50	30	53	38
18....	79	38	61	39	70	33	64	27	65	35	68	35	63	32	56	25	70	32	77	30	60	42	58	39	71	33	62	45
19....	68	31	69	33	81	31	66	28	74	41	70	41	68	29	61	29	73	26	76	31	66	39	65	32	68	29	63	35
20....	76	32	68	47	79	35	72	32	70	50	71	37	69	32	61	27	74	30	78	29	67	47	65	41	62	32	67	42
21....	70	37	77	41	89	29	79	32	81	40	76	43	80	32	66	40	85	30	70	29	54	40	71	39	78	35	60	45
22....	80	40	77	50	92	35	75	39	85	45	75	54	52	38	57	37	42	40	64	27	40	32	46	28	59	31	51	32
23....	81	38	66	44	79	43	71	34	72	36	72	43	58	38	58	35	48	36	73	30	44	30	51	25	52	31	47	32
24....	66	34	72	41	86	46	70	39	70	40	71	46	58	37	49	37	62	42	74	30	42	31	52	33	70	21	45	25
25....	71	36	64	40	64	42	68	39	71	40	70	40	69	41	61	37	62	40	78	32	58	26	63	28	72	36	61	28
26....	80	40	75	48	82	49	75	49	80	51	70	46	80	46	68	39	84	42	80	31	68	35	68	39	69	35	69	34
27....	84	38	72	50	82	43	71	48	85	53	66	48	73	41	63	40	74	39	78	30	66	38	65	37	72	36	65	37
28....	76	41	73	49	79	51	66	35	71	51	63	47	65	37	54	33	73	43	75	29	64	44	60	40	67	36	62	39
29....	78	40	61	48	74	37	66	31	85	44	70	35	72	31	63	29	75	28	76	32	67	34	65	32	60	30	71	37
30....	80	41	62	48	66	53	56	44	72	38	59	45	59	44	52	35	62	34	79	33	61	40	60	38	61	28	65	36
Mns..	80.3	40.9	73.9	47.5	82.8	44.4	73.1	39.4	77.7	47.6	74.5	45.4	71.7	41.0	61.8	36.1	73.2	40.6	75.2	33.1	62.6	42.6	62.6	39.8	67.5	36.9	65.4	41.6

Date.	Montana.				North Dakota.										South Dakota.													
	Miles City.		Poplar.		Berthold Agency.		Bismarck.		Dickinson.		Jamestown.		Williston.		Aberdeen.§§		Daviston.		Huron.		Kadoka.		Kimball.		Pierre.		Rapid City.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	90	61	82	51	84	51	88	57	89	58	84	53	76	54	93	54	.....	.....	93	60	94	72	91	61	96	71	89	68
2....	85	60	76	47	74	46	75	50	78	41	75	49	72	45	89	52	.....	.....	79	53	78	53	80	56	79	60	69	55
3....	94	64	90	54	84	50	81	50	84	52	74	42	83	57	80	46	.....	.....	74	51	69	54	75	51	68	57	76	48
4....	78	61	80	55	66	55	63	58	72	56	76	54	64	53	75	59	.....	.....	89	59	87	55	87	55	84	59	82	54
5....	68	54	56	45	58	48	64	48	61	49	60	53	53	46	67	58	.....	.....	68	60	70	54	75	59	71	56	62	52
6....	59	49	48	40	52	44	49	43	55	42	57	44	49	43	.....	55	.....	.....	60	47	71	53	63	51	62	48	65	46
7....	56	43	49	42	50	38	46	38	48	40	50	38	47	42	52	42	.....	.....	54	44	61	45	57	44	54	45	53	43
8....	74	39	79	42	69	43	65	45	68	37	55	45	66	40	62	45	.....	.....	64	48	71	51	66	47	70	47	70	45
9....	76	46	80	50	76	40	77	50	77	44	76	46	72	40	72	46	.....	.....	70	54	75	52	72	50	68	55	67	51
10....	78	54	84	51	78	37	79	45	72	43	73	45	77	41	78	52	.....	.....	84	59	84	53	82	60	82	61	80	60
11....	84	56	82	51	77	48	78	53	81	49	72	40	72	50	82	65	.....	.....	84	60	82	64	84	63	83	61	79	58
12....	84	58	86	52	81	49	75	47	82	52	67	41	81	52	74	44	.....	.....	78	49	92	57	83	51	86	56	89	60
13....	86	67	75	54	79	48	73	52	74	55	66	59	70	52	80	44	.....	.....	80	54	87	67	85	57	81	56	74	61
14....	76	54	72	53	74	57	74	54	72	50	67	47	72	53	75	50	.....	.....	77	54	67	53	70	63	76	62	74	51
15....	86	46	84	43	84	39	84	46	86	42	67	46	82	48	85	43	.....	.....	88	52	82	50	83	52	86	53	86	50
16....	76	40	73	41	77	37	77	43	76	35	66	40	72	43	82	45	.....	.....	83	50	.....	.....	80	49	80	55	83	50
17....	62	50	62	40	58	43	59	47	59	43	53	42	59	47	74	52	.....	.....	75	42	74	49	73	56	74	51	62	47
18....	66	46	63	45	58	43	57	40	60	44	61	33	59	46	64	42	.....	.....	65	42	67	40	68	40	66	48	66	37
19....	71	40	60	34	72	28	71	36	73	34	60	49	68	38	70	34	.....	.....	74	34	79	40	77	41	78	41	73	39
20....	70	42	70	43	72	32	73	42	72	35	63	42	67	36	62	38	.....	.....	60	45	74	47	64	45	66	53	72	46
21....	81	40	72	40	77	33	81	38	76	34	65	37	70	44	78	40	.....	.....	78	44	81	42	83	40	80	41	82	43
22....	48	43	56	33	63	39	60	44	60	40	65	42	46	37	88	44	.....	.....	89	55	91	51	88	52	88	54	84	44
23....	48	38	52	34	48	36	52	40	47	36	54	40	43	34	58	44	.....	.....	60	45	58	45	80	46	59	46	50	43
24....	62	36	62	34	57	40	48	34	51	37	55	36	56	38	52	33	.....	.....	55	37	65	43	60	38	56	42	58	43
25....	70	34	62	30	60	35	57	38	59	31	48	34	58	30	65	39	.....	.....	64	45	60	42	65	45	65	46	62	46
26....	80	50	73	41	75	40	75	42	78	40	68	31	70	41	70	38	.....	.....	67	44	85	50	68	35	83	51	84	52
27....	75	44	64	38	54	34	60	40	61	35	47	37	57	37	60	40	.....	.....	67	45	70	46	72	53	68	49	74	49
28....	68	48	66	40	68	36	69	41	68	34	62	40	64	39	75	45	.....	.....	77	51	77	50	77	51	76	55	70	47
29....	76	38	73	33	72	32	69	38	70	33	68	40	68	35	70	40	.....	.....	72	42	73	38	70	41	72	45	71	43
30....	68	44	70	37	70	38	63	48	74	43	50	48	66	38	54	45	.....	.....	54	50	68	52	58	48	64	53	63	54
Mns..	73.8	48.2	70.0	43.1	68.9	41.3	68.1	44.9	69.4	42.1	63.5	42.9	65.3	43.3	71.9*	45.8	.....	.....	72.7	49.2	75.6*	50.6*	74.5	50.0	74.0	52.6	72.3	49.5

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1911. District No. 6*—Continued.

Date.	South Dakota.						Colorado.				Nebraska.															
	Sioux Falls.§§		Watertown.§§		Yankton.		Denver.		Wray.		Alma.		Bridgeport.		Grand Island.§§		Hay Springs.		Hebron.		Lincoln.		North Platte.		Oakdale.		Omaha.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	85	55	91	49	98	67	84	62	91	50	99	54	90	64	94	58	88	66	93	57	97	62	98	58	95	62	97	70
2	84	53	77	52	81	62	77	53	87	50	81	63	85	56	76	64	82	54	92	63	85	65	80	60	82	58	80	68
3	85	50	78	45	75	55	71	52	83	57	90	62	78	58	83	64	75	50	86	63	83	63	80	59	76	53	83	63
4	75	60	85	57	90	63	85	55	89	52	91	64	87	47	89	65	88	45	88	68	88	70	88	59	87	58	89	70
5	77	54	68	58	77	61	91	53	95	50	96	60	92	45	94	61	88	50	92	63	91	64	90	53	77	60	90	65
6	55	45	53	49	66	54	81	52	85	50	87	70	83	46	80	70	75	52	92	70	93	61	84	56	70	56	90	62
7	59	45	49	39	58	47	78	46	74	54	73	55	70	50	65	52	65	47	72	56	66	57	69	52	59	50	62	55
8	59	48	68	40	66	48	84	51	70	49	.....	52	74	49	64	51	65	46	70	52	64	51	63	50	68	48	66	51
9	74	48	70	40	78	59	85	53	91	58	85	52	80	55	83	60	76	51	82	60	83	61	81	57	80	56	79	63
10	80	55	80	52	86	64	89	54	89	59	90	62	90	50	83	61	84	52	87	62	84	65	80	57	84	57	86	69
11	80	57	83	61	90	68	90	58	98	58	97	65	93	50	90	67	84	42	93	66	90	70	95	59	89	69	93	68
12	80	57	73	44	84	57	94	58	100	54	99	64	99	52	87	66	94	52	91	70	88	67	92	65	86	58	90	65
13	82	50	76	44	83	64	86	60	96	56	104	68	90	53	94	67	85	76	99	69	95	75	86	63	94	67	93	74
14	78	62	77	51	77	59	77	55	79	60	80	70	76	52	80	70	78	58	87	76	86	67	75	61	76	58	85	69
15	87	53	81	50	87	57	82	54	87	68	85	60	86	56	80	60	88	52	81	62	79	62	88	59	85	55	78	63
16	83	53	85	49	94	57	85	53	90	64	90	53	89	45	83	56	86	44	88	53	86	59	89	51	89	53	86	63
17	80	59	73	52	85	54	81	50	83	49	94	65	72	45	90	71	78	45	96	68	95	63	81	53	87	56	93	63
18	68	45	64	39	68	48	66	41	71	47	76	56	69	33	71	54	65	35	73	56	73	51	71	43	68	44	69	56
19	74	38	74	33	75	40	74	43	69	46	77	39	75	35	75	39	70	32	76	37	75	43	70	38	73	33	73	48
20	60	41	56	33	59	49	75	49	80	46	65	53	76	44	56	55	72	45	58	54	62	53	67	48	59	47	64	52
21	60	43	76	43	81	47	86	48	89	59	79	43	90	30	74	46	82	31	74	44	75	45	88	40	76	42	75	45
22	85	45	85	47	85	63	83	57	95	59	91	60	95	39	83	56	80	44	83	54	82	56	91	60	83	58	81	56
23	64	59	59	45	71	51	84	52	82	56	73	59	.....	.....	69	63	73	41	76	67	78	55	71	49	64	48	77	55
24	65	44	48	37	58	46	78	43	81	43	72	52	.....	.....	66	51	76	43	70	40	60	49	73	44	62	46	57	50
25	65	44	64	40	65	47	71	46	75	44	64	49	.....	.....	65	48	70	44	62	41	64	50	65	46	65	43	67	50
26	64	43	60	39	67	48	80	51	88	60	77	49	84	.....	71	51	84	50	79	52	75	49	78	46	68	41	76	51
27	70	44	63	42	77	51	80	49	90	46	90	55	84	40	84	55	85	41	91	66	84	68	88	50	80	50	87	60
28	76	51	73	45	79	57	77	50	85	49	87	65	80	51	85	60	75	54	89	70	90	65	84	54	83	54	86	64
29	73	43	71	40	74	49	73	53	72	48	65	56	75	51	66	57	70	38	70	58	68	59	63	54	68	49	68	57
30	57	43	53	43	55	50	74	51	74	51	70	55	74	53	61	52	65	30	71	54	65	54	62	52	59	51	62	57
Means	72.8	49.6	70.4	45.3	76.3	54.7	80.7	51.7	84.6	53.0	83.7[a]	57.7	82.8[c]	48.0[d]	78.0	58.3	78.2	47.0	82.0	59.0	80.1	59.3	80.0	53.2	76.4	52.7	79.4	60.4

Date.	Valentine, Nebr.		Iowa.						Kansas.										Missouri.							
			Clarinda.§§		Sibley.§§		Sioux City.		Colby.		Concordia.		Salina.		Topeka.		Wakeeney.		Columbia.		Kansas City.		St. Louis.		Unionville.§§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	90	65	100	57	94	54	96	65	105	54	99	60	102	67	93	68	105	59	92	62	92	70	90	66	96	60
2	79	59	93	59	79	59	82	63	93	60	93	67	104	68	95	65	93	59	92	64	95	70	91	67	100	66
3	68	56	84	59	77	49	79	55	94	58	89	65	95	66	88	70	95	47	87	65	89	68	88	69	86	60
4	86	58	85	60	84	55	89	67	96	59	87	70	90	69	80	68	92	61	81	65	78	68	85	67	84	58
5	76	52	94	63	68	58	78	60	100	52	94	65	95	71	92	66	99	60	84	65	88	66	82	67	90	62
6	68	51	80	60	55	54	66	55	90	62	95	63	95	77	97	70	93	68	94	65	96	65	90	69	93	60
7	56	46	70	66	53	44	58	48	75	50	70	58	80	56	78	63	83	55	77	64	76	66	85	66	78	58
8	65	46	67	51	67	44	68	47	64	48	64	55	76	63	75	60	63	53	73	63	67	61	79	68	70	55
9	79	58	84	51	77	46	77	59	91	51	82	62	80	66	79	66	87	50	81	64	77	65	84	67	80	60
10	81	58	85	62	80	55	87	66	94	57	90	67	90[b]	67	74	67	97	66	74	64	74	66	79	70	81	64
11	82	63	93	67	79	63	85	68	106	62	99	64	99	71	95	68	101	61	88	64	90	67	86	68	88	62
12	86	58	90	65	76	51	84	58	104	65	100	72	103	68	96	71	102	68	91	71	90	73	88	73	85	66
13	88	66	97	66	72	51	82	64	89	66	103	75	104	70	98	75	104	71	93	70	96	77	84	62	88	64
14	75	61	98	72	75	59	80	62	87	62	92	70	102	75	99	72	96	71	93	74	95	76	95	71	94	70
15	85	60	75	58	81	50	85	57	.....	.....	77	62	80	66	76	64	80	59	88	65	77	67	87	68	70	60
16	85	55	90	53	89	52	89	60	94	52	83	59	88	62	85	66	91	56	82	66	82	66	81	70	81	51
17	71	42	93	52	81	56	89	55	96	54	100	65	99	71	93	71	97	64	92	65	92	72	85	71	86	56
18	67	38	75	45	63	46	66	49	76	54	74	50	90	57	74	52	79	56	77	63	80	58	87	68	75	58
19	74	38	75	41	69	36	70	38	72	45	76	42	78	44	72	49	72	47	71	54	71	55	72	60	76	45
20	66	46	59	41	60	38	62	51	83	53	60	51	72	55	60	54	81	53	69	55	62	55	75	56	74	50
21	84	44	77	45	75	47	77	44	90	43	74	47	78	48	73	49	83	45	71	54	71	53	70	60	73	52
22	89	51	80	47	81	47	84	56	95	60	84	56	86	54	81	54	92	59	75	50	76	56	74	56	78	49
23	58	47	84	51	65	54	66	53	87	55	86	60	90	68	88	62	80	62	83	56	85	60	79	59	84	54
24	70	45	68	50	51	44	57	47	76	49	69	55	80	67	77	58	76	52	84	67	81	62	87	66	66	56
25	57	46	65	51	61	44	64	47	74	48	61	55	76	56	63	58	68	53	75	60	62	58	76	65	60	54
26	77	48	74	49	65	41	65	48	90	50	90	55	93	56	86	58	92	54	75	59	84	58	71	62	72	51
27	77	48	88	52	72	43	78	55	94	51	96	73	101	56	95	72	96	65	90	68	91	72	90	68	90	56
28	77	47	94	68	73	50	79	60	88	56	95	69	101	75	95	73	90	72	91	67	91	73	89	70	84	64
29	69	43	68	58	69	43	75	52	74	48	69	55	90	68	75	57	78	53	80	63	79	57	80	64	76	55
30	62	53	67	51	52	43	56	52	74	50	83	55	88	57	84	55	80	52	78	58	79	57	74	58	71	52
Mns	74.9	51.6	81.7	55.7	71.4	49.2	75.8	55.4	88.0[a]	54.3[a]	84.5	60.7	90.2	63.8	83.9	63.4	88.2	58.4	82.7	63.0	82.2	64.6	82.8	65.7	81.0	57.6

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§ Data are from standard instruments not supplied by the United States Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1911.

DISTRICT No. 7, LOWER MISSISSIPPI VALLEY.

ISAAC M. CLINE, District Editor.

GENERAL SUMMARY.

Unseasonably warm weather prevailed throughout the district during the entire month, except that there were a few cool days about the middle of the last decade over the western portion of the district. Precipitation was entirely in the form of rain, except that a trace of snow occurred at three stations near the headwaters of the Arkansas River in Colorado. Periods of precipitation were fairly well defined, but it is impossible to generalize them for the district as a whole.

TEMPERATURE.

Mean temperatures were above the normal throughout the district, the departures ranging from +1.3° to +8.0°. The greatest excess in mean temperature occurred in the south central portion of the Kansas area and the least in the New Mexico area. The warmest weather occurred generally from the 12th to 14th, and maximum temperatures were above 100° in all portions of the district, except in the New Mexico area, where the highest temperature was 98°. The highest temperature recorded was 107° at Bonham, Tex., and at Hugoton, Kans. A maximum reading of 105° was recorded at Mangum, Okla., and at Union City, Tenn. The lowest temperatures occurred generally from the 18th to 22d, except that in the southern portion of the district, the minimum readings were recorded at many stations on the 1st, and from the 24th to 30th. Minimum temperatures were generally below 60°, except in the southern portion of the district, where they were between 60° and 70°, generally; in the mountainous portions of the Colorado and New Mexico areas they were below 40°. The lowest temperature recorded was 24° at Elizabethtown, N. Mex.

Monthly mean temperatures and departures from the normal for the various States and parts of States are reported as follows: Colorado area, 63.1°, +2.8°; New Mexico area, 67.8°, +3.1°; Texas area, 78.3°, +5.8°; Kansas area, 75.8°, +6.2°; Oklahoma, 79.7°, +6.1°; Missouri area, 75.5°, +5.7°; Tennessee area, 78.4°, +6.2°; Arkansas, 79.0°, +5.4°; Mississippi area, 81.0°, +5.9°; Louisiana, 82.2°, +4.8°.

PRECIPITATION BY DRAINAGE AREAS.

Arkansas River and tributaries.—Less than the normal precipitation occurred over this drainage area, except in Arkansas, eastern Kansas, and northeastern Oklahoma, where there was an excess at most stations. Over the headwaters of the Arkansas River in Colorado, the average precipitation from 35 stations was 0.99 inch, about half an inch below the normal. Over those portions of the Arkansas Valley proper that lie in Kansas and Oklahoma, the average from 38 stations was 2.72 inches, about half the normal amount, but there was a deficiency in the western and an excess in the eastern portion. The average from 18 stations in the Cimarron Valley was 1.20 inches, about 0.9 inch below the normal. The precipitation was unevenly distributed over the Canadian Valley. Over the headwaters of this valley in New Mexico the amounts from 41 stations averaged 1.56 inches, about 0.3 inch below the normal. The precipitation was heavy in some localities in those portions of the Canadian Valley that lie in Texas and Oklahoma, but the average from 31 stations was 2.20 inches, about the normal amount. Generally heavy rains occurred in the Verdigris Valley, the average from 10 stations being 4.86 inches, about 1.7 inches above the normal. The average precipitation from 18 stations in the Neosho Valley was 4.85 inches, about 0.8 inch above the normal. Heavy precipitation occurred generally over that part of the Arkansas Valley below the Oklahoma Arkansas line, where the amounts from 15 stations averaged 5.24 inches, about 2.3 inches above the normal.

Red River and tributaries.—The precipitation was light throughout this drainage area, except in a few widely scattered localities. Over that portion of the Red River Valley that lies in New Mexico, Texas, and Oklahoma, the average from 43 stations was 2.02 inches, about 1.1 inches below the normal. Over those portions of this valley below the Texas Arkansas line the precipitation from 17 stations averaged 1.33 inches, about 1.7 inches below the normal.

Mississippi River south of St. Louis and small tributaries.—The precipitation was below the normal over this drainage area, except in northeast Arkansas and Missouri, where there was an excess. In the immediate Mississippi Valley the amounts from 39 stations averaged 3.15 inches, about the normal amount. Over the Valley of the Meramec the precipitation averaged about 1 inch above the normal. The average from 22 stations in the White River Valley was 4.71 inches, about 0.9 inch above the normal. The average from 29 stations in the Yazoo Valley was 0.99 inch, about 1.8 inches below the normal. The precipitation in the Valley of the Big Black averaged 1.14 inches, about 1.8 inches below the normal. The precipitation was unevenly distributed over the Ouachita Valley, the average from 20 stations being 1.52 inches, about 1.9 inches below the normal.

Louisiana coastal plain.—Heavy precipitation occurred in some parts of this area, but the amounts were small in several localities. The average from 33 stations was 4.32 inches, about 0.2 inch below the normal. There was more than 6 inches at 6 stations.

Monthly precipitation and departures from the normal for the various States and parts of States (in inches) are reported as follows: Colorado area, 0.96, −0.58; New Mexico area, 1.62, −0.61; Texas area, 1.54, −1.46; Kansas area, 3.44, +0.88; Oklahoma, 2.50, −0.27; Missouri,

4.46, +0.82; Tennessee area, 2.47, −0.33; Arkansas, 3.67, +0.65; Mississippi area, 1.32, −1.42; Louisiana, 3.14, −0.81.

RIVERS.

Changes were generally slight in the upper Arkansas and low stages prevailed, except in Sedgwick County, where the Little Arkansas overflowed its banks on the 7th and put 2,000 telephones in Wichita, Kans., out of commission for several days and caused damage amounting to more than $40,000. The lower Arkansas was at a navigable stage during the greater part of the month although no high stages occurred.

There were no floods in Oklahoma and all streams were low during the entire month.

Only slight changes occurred in the Red River and there was a slight but steady fall in the upper reaches of this river.

Two slight rises occurred in the upper White River, the first from the 7th to 13th, and the second between the 19th and 24th; otherwise stages were low. The lower White was at a stage of 27.5 feet, on the first 4 days of the month, but there was a steady fall after the 4th to a stage of 19.8 feet on the 30th.

Below St. Louis changes in the Mississippi River were slight, although a moderate rise commenced at St. Louis on the 14th and was general at the close of the month. No high stages were recorded.

NOTES.

Oklahoma (J. Pemberton Slaughter, section director).—Conditions were unfavorable for agricultural interests over the greater part of the State, except for the maturing and picking of cotton. The rainfall averaged nearly normal, but it was very irregularly distributed. The soil has been too dry for sowing winter wheat over large areas in the central and western counties.

Missouri (George Reeder, section director).—Weather conditions were generally favorable for outdoor work, except that harvesting and seeding were interfered with by local rains.

Tennessee (Roscoe Nunn, section director).—The rainfall was unevenly distributed. The mean temperature was the highest of record for September.

Arkansas (H. F. Alciatore, section director).—This was the hottest September of record. The rainfall was unevenly distributed. A small tornado occurred about 3 miles east-northeast of Ozark in Franklin County on September 4. It moved from the southwest. Very little damage resulted.

SEVERE LOCAL STORM,

By RICHARD H. SULLIVAN, Local Forecaster, Wichita, Kans.

A heat wave of several days' duration culminated on September 6, 1911, followed by threatening weather in the southwest about 4 p. m. The first thunder peal was heard at 4.28 p. m., and a sprinkle began at 4.30 p. m. Precipitation was heavier at 5 p. m., when hail began falling with rain. The rain and hail continued with varying intensity until 6.10 p. m., when the hail ended and the rain continued, finally ending at 7.50 p. m.

Four distinct storm clouds, passing at intervals of about 15 minutes each, dropped hail of four different kinds, ranging in size from large peas and small marbles to large hen's eggs. The kinds and sizes were as follows: Solid snow, ice-coated, 0.25 to 1 inch in diameter; gnarled ice, 0.5 by 1 by 2 inches; solid ice, round, 0.75 to 1 inch in diameter; alternate layers of ice and snow, some nearly round, some oval and some crescent shaped, the largest of which was 3 inches in diameter, 2.5 inches thick and 9.25 inches in circumference. Except in the weight of the larger stones, the hail was not heavy at any time. The stones came straight down mostly between the wind squalls of 25 to 42 miles per hour which prevailed at intervals as the storm clouds passed.

Excessive precipitation was recorded after 5.12 p. m., 0.73 inch being registered in 47 minutes. The hail, if placed on a level, approximated 0.2 inch in depth, and the estimated amount of water is 0.15 inch.

About 6 p. m., another thunderstorm developed a few miles west of the city and moved northeastward, with vivid lightning and heavy thunder. The storms finally massed in the northeast, and the last thunder was heard at 7.45 p. m.

Practically all the greenhouse roofs in the city were ruined, and thousand of skylights in the business districts and the northside windows in the residence sections were demolished, entailing a loss estimated at $40,000.

During the progress of this series of storms the sky was visible in the northwestern and southeastern horizons nearly all the time. Reports from persons south of the city and from travelers coming from the north on the Interurban Railway show that the path of the general storm was about 7 miles wide, running irregularly from the southwest to the northeast.

About 9 p. m., on the 6th, another thunderstorm of marked intensity, with a brilliant display of lighting and extremely heavy thunder, began moving southeastward over the city. First thunder peal heard, 9.08 p. m. Light rain began at 9.25 p. m., precipitation becoming excessive at 10.06 p. m., 1.10 inches falling in 37 minutes. A heavy squall of 45 miles per hour from the northwest occurred at 9.39 p. m., followed by comparatively light winds about 10 p. m., and a gale of 47 miles from the west at 10.27 p. m.

There was a continuous roar of thunder from all parts of the heavens from 10 p. m. of the 6th to about 5.30 a. m. of the 7th. An unprecedently excessive rainfall began at 11.37 p. m. of the 6th and continued to 2.59 a. m. of the 7th, and an extraordinary total amount of 7.16 inches was measured for the period, 9.34 p. m. of the 6th to 6.26 a. m. of the 7th. The total amount for the 24 hours was 7.99 inches, the actual time during which rain fell being 10 hours and 36 minutes. This amount exceeds the previous highest 24-hour record on November 12–13, 1909, by 3.25 inches.

Other excessive amounts were recorded as follows: Greatest during any 5 minutes, 0.66; 10 minutes, 0.87; 15 minutes, 0.98; 30 minutes, 1.26; 1 hour, 1.86; 2 hours, 3.54.

Subsequent reports from neighboring towns and cities indicate that the heavy rains were confined to a radius of about 25 miles north and south of Wichita and 50 miles east and west.

The heavy rains in Wichita and to the northward of the city caused a rapid rise in the drainage canal in the old Chisholm Creek Basin in the eastern part of the city, and by the morning of the 7th there was a flood in the canal zone averaging about 1,600 yards wide. At Thirteenth Street and the canal bridge the water was 2.5 feet deep; at the Douglas Avenue bridge the water was 1.5 feet deep. Many houses built on low foundations in the drainage area were flooded to depths of 1 to 3 feet. The Arkansas River running through the western part of the city showed a rise of 1.8 feet to −3.6 feet on the gauge by 7 a. m., and the water continued at this stage until

after 6 p. m. The flood waters in the canal began receding during the late afternoon, and by the following morning the flow had subsided to within 2 feet of the top of the banks.

The weakened condition of roofs and the breakage of thousands of windows and skylights, due to the rain, hail, and high winds of the afternoon of the 6th, together with the extraordinary downpour of rain, with wind squalls, during the following night, caused a general loss, including that of the greenhouses, estimated at $190,000.

THE DROUGHT AND HOT WEATHER OF 1911, IN KANSAS.

By S. D. FLORA, Observer, Weather Bureau.

The crop-growing season of 1911, extending from March to September, inclusive, has averaged the warmest and, with two exceptions, the driest that has been experienced in Kansas since the State weather service was established in 1887.

At practically all the stations in central and northeastern Kansas the maximum temperatures of the summer of 1911 were the highest on record and the maximum of 116° at Hugoton and Clay Center on June 25, 1911, is the highest tempearture ever recorded in the State by a reliable thermometer properly exposed to the free air. The previous high temperature record in the State is 115° at Manhattan on July 9, 1860.

The average daily departure from the normal temperature for the State was +3.0°. The nearest approach to this in the past 25 years was +2.2° in 1887. The summer of 1910 was the third warmest in this period, averaging 1.9° above the normal.

The drought that prevailed during the crop season of 1911 was really a continuation of the general deficiency in precipitation which began in 1910. The latter year was the fourth driest in 25 years, taking the average of the State as a whole, and the precipitation was below the normal in all parts of the State, except in a few counties in the lower Kansas Valley. In some south-central and northwestern counties less than half the normal amount of precipitation was received that year. This general drought was relieved by the wettest February on record in the State.

The deficiency in precipitation from March 1 to September 30, 1911, has been surpassed by that of but 2 previous crop-growing seasons—those of 1890 and 1894. The average precipitation for the State for these 7 months was 16.76 inches, 72 per cent of the normal amount. The State average for 1890 was 15.10 inches and for 1894 it was 16.33 inches. The deficiency in precipitation during 1911 prevailed in all parts of the State, excepting five widely scattered counties. In some of the western counties less than half the normal amount of precipitation fell from March 1 to September 30. The station reporting the least precipitation was Lakin in the Arkansas Valley in the second tier of counties from the Colorado line. This station received but 4.76 inches during the 7 months.

In the southeastern quarter of the State, where the drought of 1910 was most severe, from 17 to 33 inches of rain fell during the crop-growing season of 1911.

Only a comparatively few stations have records available for comparing the drought of 1911 with other dry seasons that have occurred in the State previous to 1887, but these clearly indicate that drier weather prevailed in northeastern and central Kansas during the summers of 1843, 1860, 1864, and 1874, though at Wallace, in extreme western Kansas, no drier summer has occurred since weather records were begun there in 1870.

TABLE 1.—*Climatological data for September, 1911. District No. 7, Lower Mississippi Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Colorado.																				
Blaine	Baca	3,935	19	71.7	+ 4.0	100	14	44	21	45	0.10	— 1.41	0.05	0	3	20	8	2	s.	M. M. Myers.
Buena Vista	Chaffee	7,955	11	51.2	— 3.1	71	8	29	19	40	1.23	+ 0.74	0.25	T	7	26	1	3	nw.	C. A. Short.
Calham	El Paso	6,700	4																	H. B. Rice.
Canon City	Fremont	5,343	23	66.8	+ 1.9	92	2†	41	18†	45	0.46	— 0.31	0.28	0	6	27	3	0	n.	U. S. Weather Bureau.
Colorado Springs	El Paso	6,098	31	61.0	+ 0.6	85	12	35	19†	39	0.33	— 0.83	0.25	0	3	12	12	6	.....	Colorado College.
Cripple Creek	Teller	9,396	10								0.79	— 0.79	0.54	0	6					F. G. Willis.
Cuchara Camp	Huerfano	8,200	2								1.09	.....	0.70	0	4	25	5	0	sw.	George A. Myers.
Eads	Kiowa	4,209	4																	W. H. Lauck.
Fairview	Custer	9,500	2								1.48	.....	0.37	T.	10	7	20	3	e.	Elizabeth L. Gray.
Fremont Exp. Station	El Paso	8,850	1																	U. S. Forest Service.
Garfield	Chaffee	9,510	1								1.74	.....	0.45	T.	16	25	2	3	w.	Lloyd N. Felton.
Hamps	Elbert	5,400	18	63.2	.....	88	12	34	21	43	0.38	— 0.62	0.19	0	4	20	8	2	s.	W. Hamp.
Hermit Lake	Custer	10,000	1								4.41	.....	1.10	0	10	13	14	3	sw.	John E. Graham.
Hoehne (near)	Las Animas	5,700	19	68.1	+ 5.5	93	1†	36	18	48	1.32	+ 0.06	0.60	0	5	26	4	0	sw.	S. W. De Busk.
Holly	Prowers	3,380	16	72.4	+ 3.8	99	13	41	21	46	0.65	— 0.72	0.65	0	1	25	2	3	se.	Holly Sugar Co.
La Junta	Otero	4,052																		Fred B. Mason.
Lake Moraine	El Paso	10,265	17	50.6	+ 3.2	68	12	27	7	30	1.24	— 0.35	0.83	0	6	9	17	4	sw.	Clyde C. McReynolds.
Lamar	Prowers	3,592	21	74.8	+ 5.9	101	1†	42	20	46	0	— 1.22	0.00	0	0	14	15	1	w.	J. T. Lawless.
Las Animas	Bent	3,899	43	72.2	+ 6.4	101	12†	38	21	54	0.52	— 0.49	0.22	0	3	16	6	8	ne.	F. M. Tague.
La Veta Pass	Costilla	9,000	1								2.05	.....	0.41	0	9	9	13	8	w.	Clara M. Wright.
Leadville	Lake	10,248	15	48.4	— 0.1	72	11†	28	19†	38	1.52	— 0.65	0.46	0	12	10	12	8	.....	U. S. Weather Bureau.
Limon (near)	Elbert	5,360	4	64.8	.....	92	12	36	18	43	0.47	.....	0.37	0	3	22	5	3	s.	F. L. Palmer.
Madrid	Las Animas		1								0.46	.....	0.28	0	5					Thos. Sawers.
Marshall Pass	Saguache	10,846	8								1.70	.....	0.40	0	5	19	3	8	.....	W. L. Williams.
Monument	El Paso	7,200	....	59.1	.....	83	10†	29	18	48	0.71	.....	0.37	0	4	14	6	10	e.	U. S. Forest Service.
North Lake	Las Animas	8,700	19								2.05	+ 0.67	0.50	0	8	22	6	2	nw.	James W. Ingmire.
Pueblo	Pueblo	4,734	23	68.2	+ 3.8	94	12	41	21	46	0.32	— 0.30	0.15	0	6	13	13	4	nw.	U. S. Weather Bureau.
Rocky Ford (near)	Otero	4,177	22	69.0	+ 3.6	99	12	36	21	52	0.12	— 0.67	0.08	0	2	22	4	4	w.	P. K. Blinn.
St. Elmo	Chaffee	9,500	2								2.16	.....	0.45	0	14	15	9	6	sw.	Daniel Clark.
Salida	do	7,035	12	57.4	+ 0.2	85	12	28	21	45	0.84	— 0.23	0.27	0	5	28	1	1	w.	M. D. L. Buell.
Santa Clara	Huerfano	8,252	16	59.4	+ 4.1	81	1†	31	18	39	0.58	— 1.70	0.16	0	5	7	23	0	.....	Lincoln G. Morris.
Sheridan Lake	Kiowa	4 065	9	70.2	.....	99	11	41	26	49	0.37	.....	0.37	0	1	17	1	12	s.	Howard Gamble.
Stonewall	Las Animas	8,000	5								1.29	.....	0.40	0	7	12	10	8	.....	G. A. Storz.
Trinidad	do	5,994	15								0.59	— 0.75	0.25	0	3					Mrs. Mattie H. Butler.
Victor	Teller	10,100	7	53.8	.....	71	11	34	19†	30	0.71	— 1.14	0.30	T.	3	23	6	1	e.	Fred Jones.
Vilas	Baca	3,935	20								0.20	— 1.41	0.11	0	3	19	10	1	sw.	Carrie Konkel.
Wayne	El Paso										0.05	.....	0.05	0	1	21	6	3	se.	J. C. Goff.
Westcliffe	Custer	7,864	17	58.2	.....	84	12	29	21	48	0.67	— 0.66	0.30	0	7	11	9	10	sw.	Zack Jordan.
Winfield	Chaffee	9,765	1																	John G. Payne.
Woodman Sanatorium	El Paso			63.6	.....	86	12	39	8†	38	0.68	.....	0.35	0	4	15	9	6	s.	Dr. J. E. White.
Wortman	Lake	11,250	10								1.42	— 0.04	0.30	0	8	0	15	15	nw.	George C. Wortman.
New Mexico.																				
Abbott	Mora	5,771	2			92	11†	45	21†	....	1.20	.....	0.80	0	5	19	8	3	s.	Agent E. P. & S. W. R. R.
Albert	Union	4,700	20	74.6	+ 1.3	98	21	49	20	42	1.91	+ 0.03	1.44	0	4				w.	Andrew Knell.
Aurora	Colfax	8,849	2								2.17	.....	0.85	0	14	3	22	5	nw.	Miss Juanita Lucero.
Bell Ranch	San Miguel	4,500	12	73.8	.....	95	13†	52	21	40	1.72	+ 0.15	1.00	0	5	14	13	3	s.	C. M. O'Donel.
Black Lake	Colfax	8,348	2								1.97	.....	0.84	0	8	5	22	3	w.	Ralph T. Martinez.
Cabeza	San Miguel	5,406	2								2.07	.....	1.25	0	4	6	23	1	sw.	Agent E. P. & S. W. R. R.
Campana	do	4,493	2								1.59	.....	0.70	0	7	8	15	7	sw.	Do.
Chacon	Mora	9,000	2								3.30	.....	1.70	0	7	4	25	1	w.	Alfred Lucero.
Cimarron (near)	Colfax	6,385	7	63.3	.....	86	11	41	8†	40	1.88	.....	0.86	0	5	15	11	4	w.	William French.
Clayton	Union	5,178	6	70.8	.....	95	11	43	19	44	1.52	.....	0.93	0	4	25	3	2	s.	Dr. W. W. Chilton.
Clovis	Curry	4,129	....	75.6	.....	98	6	50	29	47	1.67	.....	1.13	0	2	26	0	4	se.	J. H. Barry.
Cuervo	Guadalupe	4,849	2	74.6	.....	95	11	52	19†	34	2.14	.....	1.32	0	7	13	16	1	s.	Agent E. P. & S. W. R. R.
Dawson	Colfax	6,396	2								1.03	.....	0.49	0	5	12	16	2	.....	Do.
Elizabethtown	do	8,465	5	52.2	.....	80	11	24	21	52	1.34	.....	0.74	0	6	15	13	2	w.	Mabel Carrington.
Folsom	Union	6,399	11	65.8	+ 5.1	90	11	36	18	46	0.82	— 1.41	0.64	0	3	26	4	0	sw.	David Rope.
Fort Union	Mora	6,835	51	61.7	+ 1.0	83	11†	35	21	45	1.14	— 1.01	0.75	0	4	24	3	3	sw.	M. C. Needham.
Hayden	Union	4,444	2	71.4	.....	94	11	45	19†	40	0.99	.....	0.60	0	5	18	11	1	s.	J. B. Dickson.
Hoosier Ranch	Mora										1.55	.....	1.08	0	5	17	11	2	sw.	W. H. Guthman.
Johnsons Park	Colfax	6,722	2								0.60	.....	0.26	0	4	14	11	5	sw.	A. J. Meloche, jr.
Kappus	Quay	4,010	1								1.20	.....	0.70	0	5					Anthony Kappus.
Lake Alice	Colfax	7,160	2								1.17	.....	0.80	0	3	17	9	4	.....	John Campbell.
Logan	Quay	3,851	5	74.6[d]	.....	94[d]	4†	48[d]	21	41[d]	3.91	.....	3.53	0	4	26	3	1	s.	John B. Reneau.
Lykins (near)	Roosevelt	5,000	1								0.75	.....	0.43	0	4	21	7	2	sw.	J. G. Buchanan.
Maxwell (near)	Colfax	5,894	4								0.48	.....	0.35	0	2					D. N. Jackson.
Melrose	Curry	4,400	3								2.75	.....	1.18	0	4					Dr. B. M. Porter.
Miami Ranch	Colfax	6,000	3	65.4	.....	88	11	39	18†	41	1.33	.....	0.85	0	3	13	17	0	w.	Farmer's Development Co.
Montoya	Quay	4,335	2			95	24				1.45	.....	0.70	0	3	13	9	8	w.	Agent E. P. & S. W. R. R.
Mt. Dora (near)	Union	5,600	1	67.1	.....	92	11	36	21	43	1.70	.....	0.90	0	7	17	10	3	sw.	Edwin F. Grygla.
Nara Visa	Quay	4,225	5	73.6	.....	94	17	53	19	37	1.39	.....	0.72	0	5	27	2	1	sw.	George Bringle.
Ocate	Mora	7,500	....								0.45	.....	0.45	0	1	18	10	2	sw.	Mrs. J. R. Strong.
Palo Verde	do	5,880	....								1.72	.....	0.60	0	6	10	14	6	.....	G. R. Abernathy.
Pasamonte	Union		1								1.34	.....	1.01	0	3	25	0	5	sw.	J. J. Heringa.
Pleasant View	Mora										1.73	.....	0.80	0	7	18	11	1	.....	R. W. Boulware.
Raton	Colfax	6,660	13[j]	66.5[m]	+ 4.7	90[m]	6	40[m]	22	44[m]	1.18	— 0.49	0.88	0	4	13	13	4	w.	Humphrey & Wiseman.
Rociada	San Miguel	8,200	7	58.9[j]	.....	82[j]	11	35[j]	16	42[j]	0.71	.....	0.31	0	6	12	17	1	w.	J. Nrnest Dailey.
Rosebud	Union	4,500	1								0.82	.....	0.57	0	3					H. A. Nachtrieb.
Roy	Mora	5,884	2								2.28	.....	0.60	0	7	7	20	3	sw.	Agent E. P. & S. W. R. R.
San Jon	Quay	4,200	4	75.8	.....	93	5†	49	21	38	0.38	.....	0.32	0	3	25	2	3	sw.	Jesse T. White.
Solano	Mora	5,622	2	68.5	.....	90	11†	44	21	36	1.34	.....	0.64	0	6	16	11	3	sw.	F. M. Hughes.
Springer	Colfax	5,857	15	66.4	+ 3.5	90	1†	35	21	48	0.32	— 0.92	0.20	0	2	28	2	0	w.	Agent A. T. & S. F. R. R.
Taylor	do	5,661	2			92	13	48	21	....	0.52	.....	0.30	0	3	13	14	3	w.	Agent E. P. & S. W. R. R.
Trementina	San Miguel	5,000	3								1.10	.....	1.10	0	2	12	11	7	e.	Miss Alice Blake.
Tucumcari	Quay	4,194	6	75.1	.....	94	11†	50	21	37	2.75	.....	1.91	0	7	21	9	0	sw.	John F. Seaman.
Valley	Union	5,000	6								1.45	.....	0.80	0	2	23	7	0	s.	Miss M. L. Payne.
Vance (near)	do		1								2.37	.....	1.61	0	7	21	6	3	sw.	C. E. Anderson.
Vermejo Park	Colfax	7,600	6	59.8	.....	86	1	33	25	45	3.49	.....	2.20	0	5	11	13	6	w.	H. W. Adams.
Wagon Mound (near)	Mora	6,300	2	64.5	.....	89	22	35	21	45	1.07	.....	0.75	0	7	14	12	4	sw.	Guy L. Barnes.

TABLE 1.—*Climatological data for September, 1911. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Texas.																				
Amarillo	Potter	3,676	19	75.2	+ 7.5	95	5	54	19	36	0.83	− 1.53	0.41	0	4	16	13	1	s.	U. S. Weather Bureau.
Archer City	Archer		1								2.04		0.76	0	5	24	5	1	s.	Charles T. Thuman.
Arthur City	Lamar	590	19								0.03	− 2.67	0.03	0	1	24	2	4	s.	V. V. Bright.
Bonham	Fannin	566	8	84.6		107	12	65	1†	34	0.37		0.22	0	2					H. M. Norman.
Canadian	Hemphill	2,339	4	78.6		102	6	50	19	36	1.41		1.10	0	4				s.	Canadian Academy.
Childress	Childress	1,869	18								1.60	− 0.47	0.90	0	2	16	5	9	s.	W. E. Davis.
Chillicothe	Hardeman	1,406	3								3.04		2.33	0	4					A. B. Connor.
Clarendon	Donley	2,719	6	77.7		104	5	51	21†	44	3.69		3.58	0	2	23	5	2	se.	Whitfield Carhart.
Clarksville	Red River	442	11	82.9[f]	+ 4.6	101[f]	15	56[f]	9	43[f]	1.00	− 2.41	1.00	0	1	22	7	1		J. W. O'Neill.
Claude	Armstrong	3,397	6								1.23		1.23	0	1					Ft. W. & D. C. Ry.
Dalhart	Dallam	3,998	6	72.6		96	11	43	22	47	0.52		0.36	0	4	23	3	4	sw.	F. L. Kennard.
Denison	Grayson		11								2.24	− 0.69	1.40	0	3	20	4	6	se.	E. B. Wilson.
Finley	Bowie		1								1.88		0.50	0	5	25	0	5	sw.	Robert L. Smith.
Henrietta	Clay	915	19	81.6	+ 4.1	100	18	62	19†	32	1.87	− 0.73	1.05	0	3	23	4	3	s.	C. K. Brown.
Hereford	Deaf Smith	3,750	6																	A. C. Elliott.
Memphis	Hall	2,067	6	75.3		99	17	52	21	39	0.40		0.40	0	1	23	0	7	sw.	Ft. W. & D. C. Ry.
Miami	Roberts	2,743	5	77.8		100	5	46	21	39	3.04		2.82	0	3	24	5	1	s.	J. E. Kinney.
Mobeetie	Wheeler		17																	Dr. W. J. Joes.
Nazareth	Castro		5																	Rev. P. A. Kaelin.
Ochiltree	Ochiltree		3								1.66		0.70	0	6					S. J. Allen.
Pampa	Gray	3,226	2																	B. E. Finley.
Panhandle	Carson	3,450	2																	J. Sid O'Keefe.
Paris	Lamar	592	22	83.0	+ 6.0	104	12	60	1	33	0.34	− 2.19	0.12	0	4	25	2	3	s.	Robert A. Miller.
Plemons	Hutchinson		4	76.6		99	14	40	21	47	0.71		0.30	0	5	22	6	2	s.	C. S. Solomon.
Quanah	Hardeman	1,563	6	82.1		101	7†	57	19	29	1.25		0.60	0	3	22	2	6	s.	William H. Crawford.
Ringo Crossing	Hopkins		1								1.99		1.20	0	3	22	2	6	sw.	H. J. Palmer.
Romero	Hartley		1	74.0		94	11†	53	4	40	1.75		0.70	0	4	18	10	2	s.	R. S. Chamberlain.
Sherman	Grayson	745	18	82.6	+ 6.7	98	12	66	2	27	0.97	− 2.67	0.85	0	2	23	2	5	s.	R. A. Gibbs.
Stratford	Sherman	3,699		73.3		99	11	45	21	45	0.38		0.24	0	4	19	7	4	s.	J. W. Elliott.
Sulphur Springs	Hopkins	530	17																	John Neeley.
Texline	Dallam	4,694	6								1.62		1.62	0	1					Ft. W. & D. C. Ry.
Tulia	Swisher	3,501	13	74.4		99	6	51	21	40	3.05	+ 0.73	2.55	0	5	11	19	0	s.	Lou Mulhall.
Wichita Falls	Wichita	958	19								0.73	− 1.97	0.36	0	5	23	4	3	s.	R. A. Thompson.
Winfield	Titus		1								3.54		0.86	0	9	19	9	2	se.	J. C. Bostick.
Kansas.																				
Alden	Rice	1,684	1								0.99		0.44	0	3	20	0	10	se.	L. B. Walt.
Anthony	Harper	1,329	14	78.4		103	14	49	19	40	2.36	− 0.02	0.92	0	8	14	11	5	sw.	R. H. Beebe.
Ashland	Clark	1,951	23	77.0	+ 7.1	104	14	49	19	39	3.40	+ 1.35	2.08	0	7	16	12	2	se.	C. W. Carson.
Burlington	Coffey	1,010	18	76.0	+ 5.4	98	2†	48	21	38	7.41	+ 3.12	1.75	0	10	5	22	3	s.	O. E. Sanford.
Chanute	Neosho	940	7	75.6		97	12†	48	21	34	5.97		1.81	0	8	12	13	5	se.	C. W. Brown.
Cimarron	Gray			75.9		105	11	45	19	42	0.31		0.24	0	3	19[b]	3[b]	6[b]	s.	
Coldwater	Comanche	2,090	14	77.2	+ 7.1	101	13†	47	19	34	2.70	+ 0.44	1.13	0	6	19	7	4	s.	J. L. Stanley.
Columbus	Cherokee	898	21	74.9	+ 3.9	93	25	49	22	30	4.74	+ 0.84	2.82	0	9	20	5	5	sw.	O. E. Skinner.
Coolidge	Hamilton	3,348	14	70.0	+ 3.0	100	12	43	25	49						19	10	1	se.	W. R. Padley.
Cottonwood Falls	Chase	1,234	7	75.3		97	6†	45	19	32	4.30		1.72	0	9	16	5	9	s.	E. B. Greene.
Council Grove	Morris	1,234	2	74.8		96	2†	45	19	34	4.93		2.15	0	11	6	20	4	sw.	J. P. Blackledge.
Cunningham	Kingman	1,680	27	79.8[d]	+ 9.0	105	14			37	2.92	+ 0.48	1.20	0	6	11	12	4	s.	W. H. Morton.
Dodge City	Ford	2,513	37	74.9	+ 6.7	100	13	46	19	35	0.37	− 1.40	0.27	0	5	16	11	3	s.	U. S. Weather Bureau.
El Dorado	Butler	1,291	9	75.3		97	6	48	19	38	7.24		3.72	0	8	15	11	4	s.	W. Y. Miller.
Ellinwood	Barton	1,790	36	76.4	+ 7.4	105	13	40	19	41	0.82	− 1.37	0.30	0	8	7	18	5	sw.	Martin Musil.
Emporia	Lyons	1,138	30	74.2	+ 6.1	99	14†	46	21	34	3.67	+ 0.11	0.92	0	10	11	13	6	s.	W. H. Boyles.
Eureka	Greenwood	1,079	15	75.4		98	6	47	21†	35	5.97	+ 1.82	3.05	0	6	18	8	4	se.	W. S. Moonlight.
Fall River	do.	925	15	74.5[h]	+ 4.0	98[h]	6	45[h]	22	38	4.95	+ 0.59	1.75	0	6	22	6	2	s.	J. McDaniel.
Fargo	Seward		1								0.14		0.08	0	2	25	5	0	s.	N. B. Swink.
Fredonia	Wilson	864	8	76.7		98	12	50	21	35	5.04		2.13	0	9	19	5	6	s.	B. W. Holmes.
Garden City	Finney	2,836	22	74.6	+ 5.2	103	13	40	19	47	0.22	− 1.56	0.15	0	2	14	13	3	s.	B. F. Stocks.
Great Bend	Barton	1,850	2																	I. Pritchard.
Greensburg	Kiowa	2,235	4	76.2		102	13†	46	19	39	2.66		0.90	0	7	22	2	6	s.	C. C. Raymond.
Grenola	Elk	1,116	23	76.4	+ 6.1	98	6	48	22	36	8.71	+ 5.12	5.20	0	8	17	7	6	sw.	W. H. Lawyer.
Hess	Gray	2,700	5	74.2[g]		100[g]	12	53[g]	1†	41[g]	0.67		0.42	0	2	7[g]	16[g]	0[g]	se.	Fred Mallonee.
Howard	Elk	1,112	4								5.51		3.82	0	5	19	4	7	s.	J. W. Eby.
Hugoton	Stevens		7	75.4[e]		107	13	38	19	52	0.34		0.13	0	5	20	6	4	se.	E. M. Anderson.
Hutchinson	Reno	1,535	21	76.9	+ 6.6	103	14	45	19	39	3.17	+ 0.19	1.51	0	8	16	8	6	s.	E. S. Webster.
Independence	Montgomery	800	37	77.8	+ 5.6	98	6†	45	22	39	3.70	− 0.23	1.92	0	8	19	4	7	s.	F. L. Kenoyer.
Iola	Allen	984	5	75.5	+ 6.9	96	13	50	19	31	6.01	+ 2.66	2.91	0	11	13	11	6	s.	U. S. Weather Bureau.
Irene	Hamilton	3,440	1	73.4		103	13†	41	21	50	0.02		0.02	0	1	13	11	6	s.	N. M. Herbig.
Jetmore	Hodgeman	2,268	10	75.2		104	11	41	19	45	0.92	− 0.53	0.40	0	5	10	15	5	sw.	James Aiken.
Kingman	Kingman	1,504	3	77.6		101	14	48	19	35	3.77		1.37	0	8	14	11	5	se.	B. B. Anawalt.
La Crosse	Rush	2,061	9																	Rodney Torrey.
Lakin	Kearny	2,993	21	71.8	+ 3.5	103	13	40	19	47	0.33	− 1.27	0.33	0	1	24	4	2	s.	C. H. Longstreth.
Larned	Pawnee	2,090	26	76.9		105	11†	44	19	41	0.64	− 2.03	0.31	0	6	20	7	3	s.	H. H. Wolcott.
Lebo	Coffey	1,138	25	74.7	+ 5.1	99	6	47	19†	32	2.88	− 1.45	0.95	0	10	12	13	5	s.	J. J. Bowman.
Le Roy	do.	990	2								9.45		3.76	0	13	17	0	13	s.	F. W. Schmidt.
Liberal	Seward	2,843	4	75.2		101	13	43	19	42	1.28		0.75	0	5	20	1	9	se.	Dr. R. T. Nichols.
Macksville	Stafford	2,032	22	74.8	+ 6.1	103	11†	42	19	38	0.44	− 2.30	0.21	0	6	11	8	11	s.	Mrs. Nelia Poling.
McPherson	McPherson	1,495	22	76.0	+ 5.9	105	13†	42	19	39	0.94	− 2.50	0.20	0	7	17	1	12	sw.	Ed. F. Haberlein.
Madison	Greenwood	1,074	10	73.6		96	6†	45	19†	36	7.63	+ 2.52	3.55	0	10	8	15	7	se.	C. A. David.
Marion	Marion	1,310	18	76.5	+ 7.7	100	14	43	19	34	1.73	− 1.60	0.42	0	9	11	18	1	s.	Jerry Forney.
Medicine Lodge	Barber	1,259	18	78.0	+ 7.0	104	14	46	19	40	5.44	+ 2.58	1.82	0	6	15	11	4	s.	S. P. Garrison.
Medora	Reno	1,484	2																	M. L. Rickenbrode.
Mount Hope	Sedgwick	1,410	14								3.42	+ 0.66	1.17	0	6	16	7	7	s.	H. N. Renfrew.
Neosho Rapids	Lyon	1,092	6								2.60		0.96	0	9	11	1	18	se.	W. H. McMullin.
Ness City	Ness	2,260	18								0.38	− 2.00	0.18	0	3					J. K. Barnd.
Newton	Harvey	1,454	14	76.2	+ 5.9	100	13†	46	19	37	5.04	+ 1.75	3.11	0	7	14	13	3	se.	H. A. Brush.
Norwich	Kingman	1,496	15	78.7	+ 7.3	101	12†	50	19	37	3.88	+ 1.23	1.20	0	7	12	14	4	se.	N. I. Farris.
Oswego	Labette	899	17	76.0	+ 4.0	95	12	52	21	29	5.80	+ 3.43	3.30	0	9	17	8	5	sw.	Jas. M. Currigan.
Plains	Meade	2,766	1	75.5		101	13	43	19	43	1.06		0.50	0	3	25	0	5		E. J. Henning.
Pratt	Pratt	1,950	16	78.2	+ 8.6	107	11	47	19	42	2.74	+ 0.38	1.04	0	5					A. J. Van Vranken.
Richfield	Morton			71.8		101	13	44	20	52	0.34		0.22	0	3					M. J. Allen.
Rome	Sumner	1,218	25	79.0	+ 8.0	103	13†	48	19	38	2.64	− 0.03	0.98	0	6	21	1	8	s.	D. M. Adams.
Sedan	Chautauqua	834	26	76.8	+ 5.1	97	6†	49	22	36	4.28	+ 0.45	2.50	0	9	19	4	7	s.	A. Y. Buckles.
Toronto	Woodson	1,040	14	76.4	+ 6.3	102	11	48	21	37	5.91	+ 0.53	2.15	0	8	19	0	11	s.	M. A. Webb.
Ulysses	Grant	3,027	20	75.2	+ 5.9	102	12†	45	19	43	0.41	− 1.38	0.41	0	1	16[e]	9[e]	2[e]	se.	T. W. Marshall.

TABLE 1.—*Climatological data for September, 1911. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Kansas*—Continued.**																				
Walnut	Crawford	940	9	75.9[d]	.....	97	13†	52	20	26	7.20	.....	4.99	0	7	16[d]	7[d]	3[d]	sw.	R. C. Harlan.
Wellington	Sumner	1,225	15	80.0	+10.0	104	13†	46	19	41	1.69	− 1.40	0.84	0	7	13	10	7	s.	E. O. G. Kelly.
Wichita	Sedgwick	1,377	24	76.1	+ 6.3	97	14	51	19	32	10.56	+ 7.43	7.99	0	8	16	9	5	s.	U. S. Weather Bureau.
Winfield	Cowley	1,124	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. B. Light.
Yates Center	Woodson	1,068	32	75.2	+ 6.6	98	6	45	21	37	6.88	+ 2.76	2.45	0	7	13[b]	11[b]	4[b]	s.	J. W. Tipton.
Oklahoma.																				
Ada	Pontotoc	1,001	3	80.2	.....	97	12	60	19	29	2.12	.....	1.68	0	2	23	6	1	s.	R. J. Brooks.
Alva	Woods	1,350	6	79.9	.....	103	14	50	19	37	2.36	.....	1.70	0	3	15	0	15	e.	S. A. Stech.
Apache	Caddo	1,255	2	79.5	.....	99	12	55	19	39	4.28	.....	1.70	0	4	22	8	0	sw.	G. D. Teeter.
Arapaho	Custer	1,575	17	80.3	+ 6.4	101	5†	56	22	40	0.81	− 2.03	0.33	0	4	24	6	0	s.	J. C. Brower.
Ardmore	Carter	872	10	81.4	+ 5.1	99	12	58	8	32	3.31	− 0.06	2.28	0	5	22	2	6	s.	H. T. Nisbett.
Arnett	Ellis	2,136	7	77.4	.....	98	6	48	19	35	1.15	.....	0.50	0	5	22	8	0	s.	C. H. Holmes.
Bartlesville	Washington	687	3	78.0	.....	101	12	42	18	43	1.76	.....	0.90	0	8	20	4	6	sw.	Dr. A. P. Owens.
Beaver	Beaver	2,500	15	77.4	+ 5.7	100	13†	49	19	40	0.92	− 1.14	0.45	0	5	23	5	2	s.	W. C. Frazer.
Blackburn	Pawnee	800	10	80.6	+ 8.2	99	6†	54	22	35	2.34	− 3.61	0.90	0	8	24	2	4	se.	M. M. Rhodes.
Cache	Comanche	1,350	5	77.8	.....	96	11	55	2†	38	4.07	.....	2.25	0	4	21	4	5	s.	Mrs. Frank Rush.
Calvin	Hughes	713	6	.....	.....	.....	.....	.....	.....	.....	4.60	.....	2.16	0	6	24	0	6	s.	Thomas Purcell.
Chandler	Lincoln	865	10	79.8	+ 5.2	98	12	57	19†	30	4.39	+ 2.11	1.75	0	7	22	0	8	s.	Chas. L. Kern.
Chattanooga	Comanche	1,150	5	81.2	.....	100	18	62	2†	34	3.79	.....	2.08	0	4	17	11	2	sw.	Squire Humble.
Chickasha	Grady	1,091	10	81.0	+ 5.5	101	....	57	....	40	2.28	+ 0.06	1.10	0	3	28	2	0	w.	J. C. Good.
Cloud Chief	Washita	1,400	9	81.7	.....	102	5	56	19	39	1.60	.....	1.10	0	4	15	10	5	s.	J. P. Stutzman.
Durant	Bryan	643	10	81.3	+ 5.8	99	12†	60	1	33	3.34	+ 0.76	2.26	0	3	23	1	6	s.	Nelson Houk.
Eldorado	Jackson	1,456	4	81.2	.....	101	....	55	....	35[a]	0.97	.....	0.59	0	3	16	13	1	s.	T. W. Lanham.
Elk City	Beckham	.....	.....	77.5	.....	94	3†	55	8	32	0.83	.....	0.65	0	4	22	8	0	s.	R. J. Carlile.
El Reno	Canadian	1,400	20	81.9[f]	+ 9.9	100	....	56	....	39	2.16	− 0.84	1.50	0	4	14[f]	9[f]	1[f]	sw.	Rose E. Walker.
Enid	Garfield	1,269	10	80.2	+ 6.4	103	12†	57	22	39	1.94	− 1.09	0.78	0	6	22	7	1	s.	Uri B. Worcester.
Erick	Beckham	2,058	6	77.4	.....	101	....	53	....	35[a]	1.07	.....	0.81	0	2	20	7	3	s.	A. W. Hanes.
Fairland	Ottawa	839	11	77.8	+ 4.6	97	12†	53	22	32	5.76	+ 2.87	2.85	0	8	17	6	7	s.	C. W. Prier.
Fort Gibson	Muskogee	556	6	.....	.....	.....	.....	.....	.....	.....	3.32	.....	1.11	0	8	22	2	6	e.	John T. Welsh.
Frederick	Tillman	1,293	5	81.0	.....	99	7†	56	19	29	3.41	.....	2.02	0	3	23	6	1	se.	B. B. Bradley.
Goodwell	Texas	3,300	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. W. Black.
Guthrie	Logan	1,000	18	82.0	+ 7.9	102	5†	58	2	41	2.25	− 0.83	1.00	0	3	24	2	4	s.	S. E. Snyder.
Guymon	Texas	3,133	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. L. Mordt.
Harrington	Roger Mills	2,200	7	77.8	.....	100	5†	53	19	37	1.70	.....	1.20	0	3	19	10	1	sw.	T. Compton.
Hartshorne	Pittsburg	700	12	82.2	+ 4.8	98	12	61	1	31	1.56	− 1.40	0.50	0	4	24	3	3	s.	Robt. Holmes.
Healdton	Carter	900	17	80.0	+ 4.3	99	12	58	1	40	3.25	+ 1.08	1.85	0	5	23	7	0	s.	C. H. Heald.
Helena	Alfalfa	1,396	3	81.9	.....	99	6†	60	....	35[f]	1.99	.....	0.90	0	7	18	11	1	s.	R. E. Ellis.
Hennessey	Kingfisher	1,166	16	81.8	+ 7.2	103	....	53	....	38[b]	2.32	− 0.55	0.87	0	5	12	17	1	s.	Mrs. M. C. Parks.
Hobart	Kiowa	1,396	8	80.1	.....	101	5	56	19	39	0.93	.....	0.35	0	6	17	11	2	se.	Leland Turnbull.
Holdenville	Hughes	900	10	80.2	+ 6.3	99	12	59	19†	28	2.54	− 1.55	1.40	0	8	23	6	1	s.	Eula L. Rutherford.
Hooker	Texas	3,038	5	76.6	.....	104	13	44	19	46	0.63	.....	0.40	0	6	16	0	14	s.	H. N. Kelly.
Hurley	Cimarron	4,200	3	71.7	.....	97	13	42	19	39	1.23	.....	0.65	0	4	12	17	1	sw.	Dr. C. W. Meyers.
Idabel	McCurtain	474	3	81.4	.....	103	13†	61	1†	31	2.40	.....	1.30	0	3	26	2	2	.....	M. L. Henderson.
Jefferson	Grant	1,062	17	78.0	+ 4.7	99	6†	45	24	47	2.28	− 0.73	0.92	0	7	21	8	1	s.	T. E. Beck.
Kenton	Cimarron	4,000	10	72.2	+ 3.9	98	11	38	21	48	0.61	− 1.05	0.30	0	6	18	7	5	s.	Wm. M. Guy.
Kingfisher	Kingfisher	1,046	14	81.5	+ 6.9	100	12	57	22	40	0.90	− 2.30	0.46	0	8	18	10	2	s.	J. C. Cross.
McAlester	Pittsburg	698	15	82.2	.....	100	12	61	19	34	3.74	+ 0.51	1.64	0	5	27	0	3	s.	Wm. Noble.
McComb	Pottawattomie	1,200	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. E. McNair.
Mangum	Greer	1,585	18	80.4	+ 5.7	105	4	58	19	37	1.93	− 0.43	1.50	0	4	22	5	3	se.	F. D. Dodson.
Marlow	Stephens	1,292	10	79.8	+ 6.0	98	13	58	20	30	3.28	− 0.26	1.48	0	4	23	3	4	se.	Wm. B. Anthony.
May	Harper	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. C. Gray.
Meeker	Lincoln	1,030	17	80.6	+ 5.9	101	12	56	18†	42	3.42	+ 0.88	2.50	0	3	23	2	5	s.	Dr. J. H. Baugh.
Muskogee	Muskogee	614	12	79.1	+ 4.7	97	12	59	19†	28	3.53	+ 0.75	1.30	0	6	23	3	4	s.	J. Harry Randall.
Mutual	Woodward	.....	3	79.8	.....	102	15	47	19	38	0.91	.....	0.38	0	3	22	3	5	s.	Thos. Martin.
Neola	Caddo	1,500	5	79.6	.....	99	5†	55	19	38	1.80	.....	0.90	0	3	18	11	1	s.	R. N. Schooling.
Newkirk	Kay	1,149	13	80.8[f]	+ 7.1	102	....	54	....	43[f]	2.75	− 0.35	1.01	0	6	12[d]	1[d]	12[d]	s.	P. H. Albright & Co.
Norman	Cleveland	1,171	16	79.0	+ 4.3	97	12	57	19	37	2.77	+ 0.36	1.04	0	4	16	13	1	s.	S. E. Boyd.
Oakwood	Dewey	1,854	1	77.7	.....	99	5	54	1†	43	1.80	.....	1.02	0	5	19	9	2	s.	Dr. F. P. Osborn.
Okeene	Blaine	1,194	7	81.0	.....	102	13	55	22	38	0.65	.....	0.31	0	7	23	6	1	s.	Dr. L. H. Murdoch.
Oklahoma	Oklahoma	1,247	20	80.0	+ 7.9	98	13	56	19	30	1.38	− 1.37	0.87	0	4	21	5	4	s.	U. S. Weather Bureau.
Okmulgee	Okmulgee	752	7	79.3	.....	98	9†	58	19	32	5.22	.....	2.00	0	6	21	0	9	s.	J. L. Maynard.
Pauls Valley	Garvin	880	11	80.6	+ 7.2	99	12	51	19	31	1.00	− 2.72	0.59	0	3	21	7	2	sw.	A. M. Foss.
Pawhuska	Osage	918	11	80.6	+ 8.4	103	13	49	22	41	2.09	− 1.27	0.80	0	9	19	6	5	s.	R. C. Block.
Perry	Noble	920	12	81.0	+ 6.2	102	28	57	22	34	5.50	+ 2.70	3.00	0	7	17	5	8	s.	G. C. Wollard.
Ravia	Johnston	796	8	80.7	.....	98	12†	61	19	30	4.47	.....	3.20	0	4	25	3	2	s.	R. G. Guptill.
Sac and Fox Agency	Lincoln	900	18	79.4	+ 5.0	95	6†	57	19	27	5.39	+ 2.88	2.22	0	5	23	3	4	sw.	M. R. Gayle.
Shawnee	Pottawattomie	1,041	10	78.6	+ 4.7	96	12†	56	19†	32	4.00	+ 1.00	1.87	0	5	14	10	6	se.	Mrs. Kate Chatman.
Snyder	Kiowa	1,356	4	80.8	.....	100	7	56	19	34	3.24	.....	2.50	0	3	21	8	1	se.	Dr. W. C. Woodard.
Stillwater	Payne	880	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. R. Evans.
Tulsa	Tulsa	700	22	79.0	.....	100	12	55	22	32	2.70	+ 0.41	1.11	0	5	23	6	1	s.	Dr. H. M. Hutchinson.
Vinita	Craig	698	7	76.4[e]	.....	96	12†	57	19†	28[e]	3.29	.....	1.24	0	4	13[e]	0[e]	12[e]	sw.	W. C. Chamberlain.
Wagoner	Wagoner	588	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. L. Hatfield.
Waukomis	Garfield	1,258	14	81.4	+ 7.4	104	12†	53	22	40	0.68	− 2.13	0.22	0	7	18	11	1	s.	R. C. Shades.
Waurika	Jefferson	988	1	80.4	.....	99	18	59	19	32	1.47	.....	1.01	0	6	23	4	3	s.	B. A. Swindler.
Weatherford	Custer	1,639	10	80.4	+ 6.7	102	5	58	22	40	1.95	− 1.17	0.89	0	4	20	6	4	s.	M. D. Reed.
Webbers Falls	Muskogee	479	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. D. Boulineau.
Whiteagle	Kay	945	7	79.5	.....	98	15	56	21	33	3.20	.....	1.10	0	6	20	7	3	s.	J. M. Dankwardt.
Woodward	Woodward	1,893	8	78.8	.....	100	12†	45	19	37	0.41	.....	0.23	0	2	25	5	0	s.	R. A. Boyle.
Missouri.																				
Belle	Maries	.....	20	74.2	+ 4.4	100	2	47	22	37	2.66	− 1.12	0.80	0	10	9[b]	14[b]	5[b]	s.[b]	A. J. Wofford.
Birchtree	Shannon	1,200	19	75.0	+ 5.4	95	12	50	22	30	3.83	+ 0.69	0.78	0	11	20[c]	4[c]	3[c]	s.[c]	V. H. Kirkendall.
Cardwell	Dunklin	.....	1	78.1	.....	98	14†	52	1†	36	3.91	.....	2.08	0	5	15	12	3	s.	E. M. Perry.
Caruthersville	Pemiscot	.....	21	79.9	+ 7.7	97	27	55	23	34	4.95	+ 1.86	2.00	0	11	22	7	1	se.	H. E. Averill.
Cassville	Barry	.....	1	73.8	.....	95	12	46	22	33	5.59	.....	1.19	0	10	22	4	4	se.	Mrs. Zuma Bloomer.
Dean	McDonald	.....	13	76.0	+ 4.7	97	12	50	23	37	3.92	+ 0.88	1.16	0	10	19[b]	4[b]	5[b]	.....	H. E. Dean.
Doniphan	Ripley	440	8	75.6	.....	94	12†	50	22†	31	4.78	.....	1.16	0	9	18[b]	5[b]	5[b]	n.[b]	W. W. Martin.
Gano	Dent	.....	9	75.4	.....	97	13	46	22	37	2.65	.....	0.70	0	10	17	9	4	s.	A. C. Leech.
Goodland	Iron	900	7	73.0	.....	95	12	44	22	40	4.98	.....	1.11	0	13	16	11	3	s.	F. M. Adams.
Greenville	Wayne	.....	17	77.2	+ 6.6	98	12	52	23	36	3.19	+ 0.21	0.75	0	13	13	17	0	s.	A. G. Templeton.
Hollister	Taney	1,000	2	73.3	.....	92	6†	54	2†	32	8.60	.....	2.50	0	10	20	0	10	sw.	W. P. Chapman.
Ironton §§	Iron	925	34	74.4	+ 6.9	96	12	44	22	39	5.18	+ 1.69	0.97	0	13	9	14	7	n.	W. H. Delano.
Jackson	Cape Girardeau	458	21	76.2	+ 6.8	98	12	50	22	33	4.79	+ 1.20	1.25	0	12	10	11	9	s.	L. M. Bean.
Joplin	Jasper	979	30	78.6[k]	.....	92	7†	61	25	29	3.40	+ 0.11	1.80	0	6	13[k]	2[k]	3[k]	sw.[k]	Miss Ruth Smith.

TABLE 1.—*Climatological data for September, 1911. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Missouri*—Continued.**																				
Koshkonong	Oregon	911	12	75.8	+ 5.3	94	12	53	22	29	2.09	− 1.29	0.47	0	12	13	13	4	se.	J. W. Hitt.
Lamar §§	Barton	964	31	76.0	+ 5.6	97	12	53	21	27	5.95	+ 1.82	3.65	0	9	17	5	8	se.	E. H. Adams.
Marble Hill	Bollinger	420	20	74.8	+ 4.2	98	12	49	22	38	4.13	+ 0.48	1.04	0	10	17	13	0	s.	A. F. Hendrix.
Mountaingrove	Wright	1,490	13	73.8	+ 5.3	94	12	50	22	29	3.53	− 0.16	0.72	0	13	16	7	7	s.	Mo. Fruit Exp. Sta.
Mount Vernon	Lawrence	1,480	35	75.2	+ 3.7	97	12	52	22	30	2.61	− 0.91	0.45	0	9	19	5	6	sw.	J. R. White & Son.
Neosho	Newton	1,023	29	75.8	+ 5.4	95	12	48	22	35	4.76	+ 0.67	1.33	0	10	22	5	3	sw.	W. O. Buck.
New Madrid	New Madrid	285	18	.....	.....	.....	.....	.....	.....	.....	6.47	+ 3.38	2.20	0	11	21	1	8	s.	Miss Josie Smith.
Oakfield	Franklin	793	20	74.4	+ 4.0	94	2†	53	20	32	8.90	+ 5.17	2.21	0	13	6	5	9	s.	E. E. Steines.
Olden	Howell	1,246	22	75.4	+ 5.7	94	12	49	22	29	2.64	− 1.41	0.70	0	8	18	12	0	sw.	J. D. Evans.
Rolla	Phelps	1,139	31	75.4	+ 8.8	96	12	49	22	33	3.68	− 0.12	1.59	0	11	20	4	6	sw.	Prof. P. J. Wilkins.
Springfield	Greene	1,350	23	74.2	+ 6.3	92	12	53	22	27	4.38	+ 0.62	1.73	0	10	15	11	4	s.	U. S. Weather Bureau.
Steelville	Crawford	746	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Edwin Pumphrey.
Kentucky.																				
Blandville	Ballard	445	29	76.4	+ 5.4	93	12	55	22	27	3.39	+ 0.41	0.77	0	12	7	19	4	sw.	E. W. Horr.
Lynnville	Graves	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tennessee.																				
Arlington	Shelby	.....	29	78.4	+ 6.8	97	14†	54	23†	35	0.86	− 1.50	0.44	0	3	16	8	6	s.	A. Thomas B. Etheridge.
Bolivar	Hardeman	450	24	77.8	+ 5.9	95	14	54	22	32	0.19	− 2.70	0.15	0	2	25	1	4	s.	Miss Mary A. Smith.
Brownsville	Haywood	361	26	78.2	+ 5.8	93	12†	54	22	31	1.27	− 1.32	0.40	0	6	16	14	0	n.	Miss Hattie N. Moses.
Covington	Tipton	311	24	77.4	+ 4.8	93	13†	54	22†	28	1.09	− 1.54	0.90	0	4	26	0	4	s.	James S. Ruffin.
Dyersburg	Dyer	310	28	78.6	+ 6.3	96	14	55	22†	29	4.50	+ 1.55	1.80	0	9	26	1	3	se.	Miss Martha A. Sinclair.
Jackson	Madison	450	18	79.7	+ 6.8	99	13	54	23	43	4.40	+ 1.87	1.30	0	6	18	11	1	s.	Shelby A. Robert.
Kenton	Obion	325	9	78.6	.....	98	27	52	22	33	2.68	.....	0.77	0	12	17	9	4	sw.	George S. Martin.
Memphis	Shelby	409	40	79.8	+ 7.0	94	13	58	22	22	0.16	− 2.89	0.10	0	5	16	12	2	sw.	U. S. Weather Bureau.
Milan	Gibson	440	28	76.8	+ 5.1	92	15†	55	22†	30	3.37	+ 0.46	1.16	0	10	15	6	9	s.	Orlando F. Cantwell.
Trenton	....do	345	28	76.6	+ 5.6	95	28	49	23	37	1.82	− 1.18	0.52	0	8	21	7	2	s.	F. L. Dennison.
Union City	Obion	360	13	80.4	+ 7.6	105	3†	53	22	36	4.57	+ 1.54	1.12	0	8	21	9	0	w.	J. B. Kimzey.
Arkansas.																				
Alicia	Lawrence	.....	7	78.6	.....	96	18	54	22	29	1.70	.....	1.10	0	4	25	4	1	s.	McCullough & Guelck.
Amity	Clark	250	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Campbell.
Arkadelphia (near)	....do	250	4	79.6	.....	95	11†	60	1	27	1.07	.....	0.57	0	4	22	8	0	sw.	J. A. Ross.
Arkansas City	Desha	145	28	.....	.....	.....	.....	.....	.....	.....	0.02	− 2.44	0.02	0	1	.....	.....	.....	.....	W. C. Blundell.
Batesville	Independence	271	6	.....	.....	.....	.....	.....	.....	.....	4.18	.....	0.84	0	11	.....	.....	.....	.....	Lelia I. Teter.
Bee Branch	Van Buren	.....	19	78.7	+ 4.9	98	12†	54	22	33	4.55	+ 1.51	1.55	0	6	18	8	4	.....	J. E. Scanlan.
Benton	Saline	283	4	79.2	.....	99	12	57	1†	33	9.10	.....	3.30	0	4	21	9	0	s.	P. B. Jackson.
Bentonville	Benton	1,303	6	75.8	+ 6.9	95	12	53	22	29	5.90	+ 2.43	1.72	0	7	23	3	4	s.	U. S. Weather Bureau.
Bergman	Boone	1,324	15	71.2	+ 0.8	94	12	46	22	33	5.83	+ 2.27	1.78	0	7	24	4	2	sw.	John T. Maxey.
Black Rock	Lawrence	259	7	.....	.....	.....	.....	.....	.....	.....	2.85	.....	1.10	0	10	.....	.....	.....	.....	S. J. Howe.
Brinkley	Monroe	226	25	79.9	+ 6.7	101	12	56	1†	40	1.03	− 1.56	0.65	0	2	.....	.....	.....	.....	H. L. D. Whitson.
Calico Rock	Izard	361	7	.....	.....	.....	.....	.....	.....	.....	6.95	.....	1.60	0	6	.....	.....	.....	.....	W. H. Stoner.
Camden	Ouachita	158	26	81.1	+ 6.7	99	13	59	1	30	0.80	− 2.55	0.48	0	3	.....	.....	.....	.....	R. H. Quarterman.
Centerpoint	Howard	470	11	82.0	+ 5.3	101	14	60	1	29	2.72	− 1.84	1.00	0	6	17	8	5	se.	J. M. Huddleston.
Clarendon	Monroe	171	7	.....	.....	.....	.....	.....	.....	.....	1.80	.....	0.96	0	3	.....	.....	.....	.....	Mrs. B. E. Bishop.
Conway	Faulkner	309	28	78.9	+ 5.6	97	12	57	22	29	5.30	+ 1.74	1.95	0	6	19	10	1	s.	G. H. Burr.
Corning	Clay	293	19	78.8‡	+ 7.9	97	....	55	....	33‡	4.61	+ 0.92	1.55	0	11	.....	.....	.....	.....	Jacob Brobst.
Dardanelle	Yell	330	25	78.9	.....	98	12†	56	1	32	5.67	+ 2.60	1.58	0	8	.....	.....	.....	.....	A. Bernard.
Dodd City	Marion	1,175	30	75.6	+ 4.0	94	....	51	....	30‡	7.36	+ 3.60	3.40	0	6	.....	.....	.....	s.	Neal Dodd.
Dutton	Madison	.....	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. M. Ricketts.
Eldorado	Union	265	7	81.2	.....	98	12	61	1	29	0.00	.....	0.00	0	0	.....	.....	.....	.....	Jeff J. Babb.
England	Lonoke	.....	5	80.5	.....	98	12†	60	1†	28	6.40	.....	4.25	0	3	21	4	5	.....	J. C. Chenault.
Eureka Springs	Carroll	1,465	9	76.6	.....	97	12	50	22	31	9.11	.....	2.25	0	9	17	12	1	sw.	George W. Nicholds.
Fayetteville	Washington	1,451	22	77.6	+ 6.4	95	12†	53	22	32	9.61	+ 6.03	3.20	0	9	21	4	5	sw.	University of Arkansas.
Fordyce	Dallas	.....	...	81.0	.....	98	12†	61	1†	30	1.04	.....	0.56	0	4	22	7	1	s.	A. Tredick.
Fort Smith	Sebastian	481	29	80.0	+ 7.3	98	13	61	22	24	4.42	+ 1.25	1.66	0	7	22	4	4	e.	U. S. Weather Bureau.
Fulton	Hempstead	264	7	.....	.....	.....	.....	.....	.....	.....	0.53	.....	0.28	0	2	.....	.....	.....	.....	B. C. Logan.
Hardy	Sharp	643	13	77.0	+ 4.8	97	13	53	22†	31	4.04	+ 0.23	1.48	0	11	5	20	5	sw.	C. A. Caywood.
Helena	Phillips	182	26	79.6	+ 5.4	98	12	58	22	29	0.56	− 3.08	0.34	0	3	.....	.....	.....	.....	B. F. Modisett.
Hot Springs	Garland	600	5	80.2	.....	100	12†	58	1	31	4.30	.....	3.10	0	2	19	11	0	w.	Hot Springs Water Co.
Huttig	Union	85	4	81.9	.....	99	13	63	26	31‡	0.03	.....	0.03	0	1	4	26	0	.....	C. A. Berry.
Jonesboro	Craighead	345	16	78.2	+ 4.0	100	13	50	23	39	2.55	− 1.21	0.99	0	8	1	28	1	s.	Benedictine Sisters.
Junction	Union	.....	18	80.2	+ 5.6	97	12	56	1	30	0.53	− 1.38	0.32	0	2	21	5	4	sw.	J. A. Lowderback.
Lake Farm	Jefferson	195	4	80.0	.....	101	13	56	1†	35	0.70	.....	0.70	0	1	19	11	0	s.	R. H. Gillispie.
Lewisville	Lafayette	262	8	83.8	.....	102	27†	60	1	34	0.64	.....	0.23	0	4	18	8	4	.....	F. W. Youmans.
Little Rock	Pulaski	357	32	79.4	+ 6.3	96	12	59	22	22	6.43	+ 3.17	2.57	0	6	18	8	4	sw.	U. S. Weather Bureau.
Lutherville	Johnson	775	14	77.5	+ 4.3	96	13	56	1†	29	7.02	+ 3.50	3.25	0	9	16	12	2	s.	W. R. Hentschel.
Malvern	Hot Spring	277	24	80.0	+ 5.9	100	12	56	1	32	3.13	+ 0.53	1.70	0	6	.....	.....	.....	.....	Miss L. C. Smith.
Mammoth Spring	Fulton	512	7	75.6	.....	94	12†	49	22	34	2.77	.....	0.68	0	12	16	13	1	.....	F. Wallick.
Marked Tree	Poinsett	229	7	.....	.....	.....	.....	.....	.....	.....	1.34	.....	0.74	0	4	.....	.....	.....	.....	L. Smith.
Mena	Polk	1,100	25	79.0	+ 5.9	95	12†	62	1†	26	2.27	− 1.55	0.80	0	5	26	3	1	sw.	R. R. St. John.
Newport	Jackson	231	27	78.0	+ 4.7	97	....	58	22	29‡	4.54	+ 0.88	1.55	0	7	.....	.....	.....	.....	Chas. Sprigg.
Ozark	Franklin	377	20	79.4	+ 3.1	100	13	58	22	30	5.28	+ 2.26	1.60	0	7	19	5	6	e.	R. M. Adams.
Pine Bluff	Jefferson	215	23	80.8	+ 5.1	98	12	61	1	27	1.49	− 2.25	0.80	0	5	.....	.....	.....	.....	J. M. Hudson.
Pocahontas	Randolph	.....	19	78.7	+ 6.9	98	13	54	23	32	3.55	+ 0.25	1.24	0	6	14	14	2	.....	Benedictine Sisters.
Pond	Benton	1,250	14	75.9	+ 5.8	94	12†	55	22	31	5.91	+ 2.32	1.40	0	7	13	13	4	sw.	A. F. Stevens.
Portland	Ashley	122	2	81.5	.....	98	12†	62	1	28	0.84	.....	0.56	0	2	.....	.....	.....	.....	T. A. Corson.
Prescott	Nevada	327	23	80.7	+ 5.1	99	12†	55	1	33	0.52	− 2.11	0.22	0	5	.....	.....	.....	.....	A. M. Ellsworth.
Rogers	Benton	1,385	20	75.4	+ 5.0	94	12	54	22	31	10.00	+ 6.50	2.10	0	9	20	6	4	s.	Carl A. Starck.
Springbank	Miller	182	4	.....	.....	.....	.....	.....	.....	.....	2.47	.....	1.34	0	5	.....	.....	.....	.....	G. Field.
Stuttgart	Arkansas	495	24	80.0	+ 6.9	99	12	59	22†	29	4.68	+ 3.29	3.75	0	3	22	8	0	s.	H. A. Buerkle.
Subiaco	Logan	1,050	14	79.5	+ 4.7	97	13†	59	1†	28	4.91	+ 1.74	1.80	0	8	22	4	4	e.	New Subiaco Abbey.
Swain	Newton	2,300	...	74.0	.....	89	12	53	22	23‡	6.31	.....	1.13	0	8	17	9	4	s.	George Paxton.
Texarkana	Miller	332	27	82.2	+ 5.8	97	12	62	1	24	0.63	− 2.28	0.37	0	4	.....	.....	.....	.....	D. E. Moore.
Warren	Bradle	304	16	80.8	+ 5.2	98	13	60	1	29	1.09	− 2.35	0.57	0	2	.....	.....	.....	.....	W. J. Savage.
Whitecliffs	Little River	206	7	.....	.....	.....	.....	.....	.....	.....	2.46	.....	1.02	0	3	.....	.....	.....	.....	John E. Payton.
Wigga	Garland	.....	18	78.2	+ 4.3	100	12	54	1	35	2.58	− 1.11	1.13	0	5	18	12	0	sw.	S. D. Jester.
Wynne	Cross	250	3	78.9	.....	98	11	54	23	35	.....	.....	.....	.....	6	.....	.....	.....	.....	John Seals.

TABLE 1.—*Climatological data for September, 1911. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days. 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Mississippi.																			
Anguilla	Sharkey	107	3	80.8	.....	96	9†	63	1†	29	0.10	.....	0.10	0	1	23	6	1	se.	E. W. Cook.
Austin	Tunica	200	15	80.2	+ 6.5	100	12	56	22†	36	0.72	− 2.75	0.28	0	4	28	2	0	w.	H. J. Irvine.
Batesville	Panola	230	24	81.6	+ 8.4	101	14	55	22	40	0.77	− 2.32	0.70	0	2	27	2	1	se.	J. M. Cox.
Byhalia	Marshall	390	2	.....	.....	.....	.....	.....	.....	.....	1.50	.....	1.43	0	4	25	5	0	s.	Tallahatchie Drainage Com.
Canton	Madison	228	21	82.2	+ 6.5	101	14	63	1	32	0.42	− 2.55	0.17	0	8	17	13	0	se.	Dr. G. W. Smith-Vaniz.
Charleston	Tallahatchie	.....	1	.....	.....	.....	.....	55	23	.....	0.82	.....	0.50	0	2	.....	.....	.....	.....	W. B. Burke.
Clarksdale	Coahoma	177	4	80.4	.....	97	12†	59	22†	32	0.91	.....	0.67	0	3	17	5	8	s.	A. C. Tuttle.
Coffeeville	Yalobusha	241	2	.....	.....	.....	.....	.....	.....	.....	2.30	.....	0.78	0	4	17	13	0	s.	Tallahatchie Drainage Com.
Corinth	Alcorn	470	23	79.8	+ 7.4	99	14	57	22	31	3.64	+ 0.83	2.30	0	7	20	5	5	se.	M. A. Candler.
Crenshaw	Panola	187	2	.....	.....	.....	.....	.....	.....	.....	0.38	.....	0.23	0	4	18	12	0	.....	Tallahatchie Drainage Com.
Denmark	Lafayette	.....	2	.....	.....	.....	.....	.....	.....	.....	0.15	.....	0.15	0	1	.....	.....	.....	.....	Do.
Duck Hill	Montgomery	.....	12	81.0[4]	+ 6.3	100	13	59	.....	37	0.43	− 2.66	0.33	0	2	13[4]	11[4]	0[4]	ne.	W. H. Eskridge.
Edwards	Hinds	222	24	82.5	+ 5.6	98	13†	67	23†	30	3.05	− 0.17	1.65	0	4	25	4	1	s.	E. F. Farr.
Enid	Tallahatchie	.....	2	.....	.....	.....	.....	.....	.....	.....	0.88	.....	0.69	0	3	.....	.....	.....	sw.	Tallahatchie Drainage Com.
Fayette	Jefferson	270	10	81.0	+ 5.6	97	13†	61	26	33	2.83	− 1.44	2.40	0	3	19	11	0	se.	T. L. Darden.
Greenville	Washington	126	24	81.4	+ 5.7	96	12†	63	1	28	4.04	+ 0.99	3.33	0	4	24	2	4	ne.	F. L. Harbison.
Greenwood	Leflore	140	11	81.8	+ 6.7	100	12†	61	1	34	0.05	− 3.10	0.05	0	1	23	5	2	sw.	J. H. Stephen.
Grenada	Grenada	124	2	.....	.....	.....	.....	.....	.....	.....	0.67	.....	0.54	0	3	28	2	0	s.	Tallahatchie Drainage Com.
Hernando	De Soto	391	23	80.7	+ 6.6	98	27	59	22†	32	1.23	.....	0.90	0	2	22	1	7	s.	W. F. Wood.
Hickory Flat	Benton	435	2	.....	.....	.....	.....	.....	.....	.....	1.20	.....	0.95	0	5	19	11	0	sw.	Tallahatchie Drainage Com.
Holly Springs	Marshall	600	24	79.0	+ 5.3	94	27	57	22	26	2.35	− 1.02	1.60	0	4	21	2	7	se.	L. B. Mosby.
Kosciusko	Attala	430	21	81.0	+ 6.0	99	13†	60	1	31	0.79	− 2.30	0.40	0	6	26	4	0	e.	E. L. Lucas.
Lake Cormorant	De Soto	206	2	.....	.....	.....	.....	.....	.....	.....	0.26	.....	0.10	0	3	9	20	1	sw.	Tallahatchie Drainage Com.
Lula	Coahoma	182	2	.....	.....	.....	.....	.....	.....	.....	0.14	.....	0.14	0	1	29	1	0	.....	Do.
Marks	Quitman	163	2	.....	.....	.....	.....	.....	.....	.....	0.06	.....	0.06	0	1	.....	.....	.....	.....	Do.
Natchez	Adams	206	23	81.4	+ 4.0	96	12†	64	1	26	3.16	− 0.28	2.00	0	6	16	0	14	ne.	F. L. Garrity.
New Albany	Union	398	2	.....	.....	.....	.....	.....	.....	.....	0.76	.....	0.38	0	3	22	8	0	s.	Tallahatchie Drainage Com.
Pontotoc	Pontotoc	475	22	78.7	+ 5.0	95	14	57	23	31	1.44	− 1.63	0.74	0	4	16	14	0	nw.	Dr. C. W. Bolton.
Port Gibson	Claiborne	116	23	81.6	+ 5.8	99	14	64	1†	29	0.92	− 2.21	0.40	0	5	23	4	3	e.	H. H. Crisler.
Rosedale	Bolivar	143	3	80.6	.....	97	12†	61	1†	30	0.56	.....	0.45	0	3	21	4	5	sw.	T. J. Murray.
Senatobia	Tate	284	2	.....	.....	.....	.....	.....	.....	.....	0.38	.....	0.20	0	3	29	0	1	sw.	Tallahatchie Drainage Com.
Shoccoe	Madison	.....	8	80.7	.....	100	12†	59	1	33	1.32	− 2.04	1.09	0	3	22	8	0	se.	J. C. Pitchford.
Suffolk	Franklin	.....	10	81.5	+ 3.7	98	13	65	24	28	3.25	− 0.66	1.33	0	10	18	10	2	ne.	Prof. George H. Kent.
Swan Lake	Tallahatchie	148	6	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	0	0	.....	.....	.....	.....	B. F. Saunders.
Tebula	Holmes	130	6	81.7	.....	98	14†	62	2	31	1.88	.....	1.45	0	2	13	17	0	e.	Dr. M. P. Winkler.
Utica	Hinds	287	7	81.6	.....	99	13†	65	1†	27	1.72	.....	0.85	0	4	18	10	2	sw.	Dr. J. P. Dudley.
Vicksburg	Warren	247	40	81.7	+ 6.9	95	12	69	24	21	2.47	− 0.87	2.16	0	6	10	17	3	e.	U. S. Weather Bureau.
Water Valley	Yalobusha	300	22	80.7	+ 6.0	99	14	58	1	33	1.55	− 1.88	1.15	0	3	28	2	0	ne.	Miss Loula Erikson.
Woodville	Wilkinson	560	18	81.6	+ 4.4	96	14	66	24	26	3.22	− 0.31	1.00	0	10	15	15	0	se.	James E. Lee.
Yazoo City	Yazoo	116	17	81.4	+ 4.9	99	14	62	1	29	0.68	− 2.03	0.39	0	5	26	1	3	e.	W. H. Courts.
Louisiana.																				
Abbeville	Vermilion	18	23	81.4	+ 3.2	95	12	69	24	23	4.18	− 0.10	1.02	0	15	7	12	11	sw.	C. J. Edwards.
Alexandria	Rapides	77	23	82.4	+ 5.1	97	12†	62	1	32	1.37	− 1.59	1.07	0	3	20	5	5	s.	Nellie Graham.
Amite	Tangipahoa	130	23	81.5	+ 4.2	98	11	67	25	27	5.48	+ 0.71	1.25	0	7	7	23	0	n.	Lulu M. Wentz.
Avocs Island	St. Mary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. N. Pharr & Sons (Ltd.).
Baton Rouge	East Baton Rouge	60	23	80.4	+ 2.6	97	13	65	6†	31	2.60	− 1.59	0.67	0	12	17	7	6	ne.	Elmo M. Bott.
Burnside	Ascension	20	11	81.9	+ 4.2	96	12	69	21†	23[3]	6.33	+ 0.96	1.16	0	13	3	15	12	.....	C. S. McFarland.
Burrwood	Plaquemines	1	23	85.6	+ 5.3	94	6	75	27	18	3.73	− 3.03	1.72	0	7	19	9	2	se.	Graham Myers.
Cades	St. Martin	.....	1	82.8	.....	98	13	70	24	24	2.41	.....	0.58	0	9	21	9	0	s.	C. E. Smedes.
Calhoun	Ouachita	180	23	82.0	+ 6.7	100	13	60	1	33	1.16	− 2.10	0.63	0	3	16	14	0	sw.	North Louisiana Exp. Sta.
Cameron	Cameron	6	18	81.8	+ 2.3	93	6†	69	1	20	1.65	− 3.67	0.36	0	6	6	19	5	se.	State Biological Station.
Carrollton	Orleans	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Loyola College.
Cheneyville	Rapides	67	23	82.2	+ 5.3	99	12†	64	1	28	1.69	− 0.22	1.45	0	3	23	3	4	e.	Walter I. Tanner.
Cinclare	West Baton Rouge	.....	1	82.4	.....	98	13	68	23	26	3.49	.....	0.65	0	13	16	13	1	se.	Cinclare Central Factory.
Clinton	East Feliciana	113	23	80.6	+ 3.9	95	14	67	24	24	2.54	− 1.43	1.40	0	10	14	12	4	n.	John A. White.
Collinston	Morehouse	65	10	83.0	+ 6.2	100	12†	63	2	31	0.28	.....	0.18	0	2	21	6	3	s.	John B. Reily.
Covington	St. Tammany	39	19	82.2	+ 4.4	97	12†	69	21†	26	3.51	− 0.99	1.20	0	13	22	5	3	s.	Lucille Champagne.
Dodson	Winn	.....	2	82.6	.....	99	18	63	1	29	1.74	.....	0.80	0	5	12	17	1	se.	J. P. Lucas.
Donaldsonville	Ascension	33	23	83.2	+ 4.4	97	13†	70	21†	25	6.49	+ 1.89	2.85	0	9	26	2	2	e.	John F. Park.
Dutchtown	....do	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.22	.....	1.10	0	10	.....	.....	.....	.....	Picard & Geismer (Ltd.).
Farmerville	Union	177	23	80.4[2]	+ 4.8	95	.....	60	1	28[2]	0.25	− 2.54	0.25	0	1	25	4	1	s.	W. F. Chandler.
Ferriday	Concordia	.....	4	81.5	.....	96	12†	64	24	27	0.10	.....	0.10	0	1	29	1	0	s.	R. Z. Sclater.
Franklin	St. Mary	10	19	82.8	+ 3.8	97	5†	71	18†	24	7.57	+ 1.81	1.07	0	18	18	9	3	ne.	J. M Bonney.
Grand Cane	De Soto	302	17	78.5	+ 2.4	99	18	51	1	40	0.37	− 2.84	0.22	0	3	14	14	2	se.	G: Foster Provost.
Grand Coteau	St. Landry	93	23	82.2	+ 4.6	97	13	67	24	25	3.78	+ 0.31	0.58	0	12	19	11	0	s.	St. Charles College.
Hammond	Tangipahoa	44	19	81.6	+ 4.3	99	12	61	7	32	4.67	+ 1.05	1.40	0	10	15	15	0	se.	C. C. Carr.
Houma	Terrebonne	.....	23	82.4	+ 4.1	98	13	69	3†	26	5.54	− 0.38	1.12	0	13	17	2	11	w.	H. M. Foote.
Jena	Catahoula	.....	.....	83.0	.....	100	12†	66	1	31	1.87	.....	1.87	0	1	2	28	0	s.	I. A. Wilbanks.
Jennings	Calcasieu	30	14	83.0	+ 4.9	100	12	67	1	27	2.55	− 1.97	1.38	0	8	3	27	0	se.	J. F. Buch.
Lafayette	Lafayette	36	23	81.4	+ 3.7	95	13	69	1†	23	4.92	+ 1.45	1.10	0	13	21	7	2	e.	J. J. Davidson.
Lake Charles	Calcasieu	22	23	81.4	+ 3.7	100	12	63	1	32	4.39	+ 0.73	1.28	0	10	24	0	6	e.	George Boudreaux.
Lakeside	Cameron	10	.....	83.6	+ 4.5	97	12	72	4	22	2.19	.....	0.98	0	9	20	3	7	e.	L. J. Nunnemacher.
La Rose (near)	La Fourche	.....	.....	81.2	.....	96	13†	68	7†	24	4.61	.....	1.12	0	14	17	13	0	e.	Louisiana Delta Farms Co.
Lawrence	Plaquemines	6	20	82.4	+ 3.0	100	11	71	3†	26	8.05	+ 1.71	1.85	0	14	9	14	7	se.	H. C. Warmoth.
Leesville	Vernon	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. M. McFarland.
Liberty Hill	Bienville	.....	23	83.8	+ 6.8	104	16	64	1	36	0.85	− 2.10	0.65	0	2	25	4	1	s.	E. A. Crawford.
Logansport	De Soto	192	7	.....	.....	.....	.....	.....	.....	.....	0.65	.....	0.28	0	3	.....	.....	.....	s.	Bettie M. Dennis.
Melville	St. Landry	45	23	82.2	+ 5.1	100	13	65	1	30	1.35	− 2.02	0.60	0	5	21	4	5	ne.	Charles B. McNeill.
Minden	Webster	194	23	81.2	+ 4.2	99	12†	56	1	34	1.54	− 1.01	0.98	0	2	20	7	3	s.	Ethel Fort.
Monroe	Ouachita	82	23	83.6	+ 7.9	98	13†	64	1	29	0.54	− 2.42	0.39	0	2	24	0	6	e.	L. L. Smith.
Morgan City	St. Mary	14	5	.....	.....	.....	.....	.....	.....	.....	6.02	.....	1.54	0	15	16	11	3	ne.	Virgil E. Kinsey.
Newellton	Tensas	.....	4	82.0	.....	98	13	64	1	27	2.97	.....	1.75	0	3	.....	.....	.....	.....	John D. Fultz.
New Iberia	Iberia	15	23	81.5[2]	+ 3.5	92	13†	70	24	19[2]	2.91	− 1.58	1.00	0	8	6	17	7	ne.	Mrs. John A. Gebert.
New Orleans (1)	Orleans	51	40	82.6	+ 4.6	94	13	72	3	18	5.43	+ 0.62	1.23	0	16	3	21	6	se.	U. S. Weather Bureau.
New Orleans (2)	....do	18	23	82.5	+ 4.3	98	13†	69	21†	26	2.65	− 3.33	0.61	0	14	1	9	20	s.	Sugar Experiment Station.
Opelousas	St Landry	83	19	83.7	+ 5.8	101	12†	64	18†	35	3.26	− 0.46	1.83	0	5	27	0	3	e.	Andrew Moresi.
Paradis	St. Charles	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.49	.....	1.50	0	13	.....	.....	.....	.....	R. E. Boyce.
Pearl River	St. Tammany	29	5	.....	.....	.....	.....	.....	.....	.....	5.26	.....	3.14	0	14	25	4	1	e.	Geo. F. Bancks.
Plain Dealing	Bossier	268	19	82.6	+ 5.9	100	12†	65	24	32	1.75	− 0.94	0.85	0	5	22	7	1	se.	Leon Sanders.
Rayne	Acadia	44	19	82.4	+ 4.1	97	14	67	24	25	5.29	+ 1.22	2.00	0	9	24	2	4	e.	A. P. McNeil.
Reserve	St. John Baptist	.....	10	84.0	+ 6.2	103	13	67	25	29	0.71	− 4.12	0.62	0	2	4	21	5	.....	Leon Godchaux Co. (Ltd.).
Robeline	Natchitoches	147	15	81.7	+ 6.1	99	12	56	1	34	1.01	− 1.84	0.76	0	2	24	3	3	e.	Ruby McCook.
Ruston	Lincoln	312	16	83.5	+ 5.7	98	7†	67	28†	28	0.25	− 2.73	0.25	0	1	24	0	6	ne.	R. A. Clampet.

TABLE 1.—*Climatological data for September, 1911. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Louisiana—Continued.																				
St. Francisville	West Feliciana	115	8	81.9	.....	95	14	66	4	24	4.00	.....	1.27	0	4	19	10	1	s.	L. P. Kilbourne.
Schriever	Terrebonne	17	19	82.6	+ 4.3	98	10	68	21	27	7.91	+ 2.84	1.81	0	17	27	1	2	e.	Harriet F. Riveire.
Sheridan	Washington	.....	1	81.9	.....	99	14	67	1	30	5.55	.....	1.50	0	13	3	27	0	.....	D. A. Self.
Shreveport	Caddo	249	40	82.5	+ 6.8	96	12	66	1	23	0.93	− 2.29	0.87	0	5	22	5	3	se.	U. S. Weather Bureau.
Simmesport	Avoyelles	42	5	.....	.....	.....	.....	.....	.....	.....	0.64	.....	0.34	0	6	10	8	12	ne.	C. T. Leigh.
Southern University Farm.	Jefferson	.....	14	.....	.....	.....	.....	.....	.....	.....	3.58	− 1.26	1.56	0	10	3	12	15	se.	F. L. St. Martin.
Sugartown	Calcasieu	.....	18	82.2	+ 4.8	94	13†	67	24	21	3.71	+ 1.02	1.80	0	5	1	29	0	.....	G. W. Richardson.
Tallulah	Madison	91	4	81.5	.....	99	13	61	1	30d	2.18	.....	1.60	0	2	0	30	0	.....	C. E. Speed.
Walker	Livingston	.....	1	80.8	.....	95	12	67	23	25	4.44	.....	2.20	0	10	10	9	11	nw.	H. C. Fondren.

a, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1911. District No. 7, Lower Mississippi Valley.*

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Colorado.																																
Blaine	Cimarron							.05								.03				T.									T.		.02	0.10
Buena Vista	Arkansas				.15					.10			.18			.25					.20						T.			.25	.10	1.23
Calham	Big Sandy																															
Canon City ‖	Arkansas			.01	.07									T.		.28					.03			T.						.02	.05	0.46
Colorado Springs	Fountain		T.							T.						.25											.02	T.			.06	0.33
Cripple Creek	Oil Creek	.03													.54					.07			.06			.02	T.	T.	T.	T.	.07	0.79
Cuchara Camps	Cucharas														.08	.12				.19										.70		1.09
Eads	Big Sandy																															
Fairview	St. Charles	.37	.21	.06								.09			.07						.03				.09	.24		.08	.24			1.48
Fremont Exp. Sta. ‖	Fountain																															
Garfield	Little Arkansas		.07	.13	.02	.09	.02						.03	.06	.08	.12					.07		.11	.11			.21		.05	.12	.45	1.74
Hamps	Big Sandy		.04	.19																										.08	.07	0.38
Hermit Lake	Grape Creek					.28								.36	.16	.64				.84	.08	.06					1.10			.30	.59	4.41
Hoehne (near)	Purgatoire		.35						.60						.06	.10												T.		T.	.21	1.32
Holly	Arkansas				.65																											0.65
La Junta	....do																															
Lake Moraine	Fountain	.10	.04													.83											.10			.07	.10	1.24
Lamar	Arkansas																															
Las Animas	....do		.17																										.13	.22		0.52
La Veta Pass	Cucharas		.27		.09								.04	.24	.21						.20								.31	.28	.41	2.05
Leadville	Arkansas	.13		.05	.04	T.	.03					T.		.13	.20	.21				T.	.46		.01				.02	T.	T.	.06	.18	1.52
Limon (near)	Big Sandy	T.	.06	.37	T.	T.				T.					T.						T.								T.	.04	T.	0.47
Madrid	Purgatoire			.05															.04	.06										.03	.28	0.46
Marshall Pass	Arkansas												.20							.40							.40			.40	.30	1.70
Monument	Fountain	.15	T.										T.		.37												.11			.08		0.71
North Lake	Purgatoire												.11		.38	.28				.28	.01								.19	.50	.30	2.05
Pueblo	Arkansas	T.	.01	.14											.04	.01		T.		.09							T.		T.	.03		0.32
Rocky Ford (near)	....do	T.	.04																												.08	0.12
St. Elmo	Chalk Creek		.10	.08			T.			.10	.05		.04	.12		.31				.04	.20		.12	.05			.30			.20	.45	2.16
Salida ‖	Arkansas			.15												.24					.08						.10				.27	0.84
Santa Clara	Huerfana	T.		T.					T.	T.	T.		T.		.16	.16				.08									T.	.09	.09	0.58
Sheridan Lake	Arkansas			.37																										T.	T.	0.37
Stonewall	Purgatoire			.12	.01	T.							.40		.22	.23			T.	T.									T.	.08	.23	1.29
Trinidad	....do														.25	.10														.24		0.59
Victor	Oil Creek		.30													.28					T.						.13					0.71
Vilas	Cimarron								.11						.04				T.	T.									.05			0.20
Wayne	Arkansas	T.	.05												T.			T.												T.	T.	0.05
Westcliffe	Grape Creek														.03	.02	.30			.06						.15					.06	0.67
Winfield	Clear Creek																															
Woodman Sanat'm.	Fountain		.28												.03	.35											.02					0.68
Wortman	Arkansas	T.	T.	.20	T.	T.		T.				T.	.21	.10	T.	T.	T.	T.	.20	.10	.21	T.	T.	T.				.30	.10	T.	T.	1.42
New Mexico.																																
Abbott	Canadian								.20						.10					.10										.70	.10	1.20
Albert	....do											.47																	*	1.44		1.91
Aurora	....do			.12	.34				.08	.15	.02	.06			.13	.04	.02			.02						.03			.09	.22	.85	2.17
Bell Ranch	....do									.42						.11				.19									T.	.21	.79	1.72
Black Lake	....do			.30		.06			.06				.21		.22														.28	.52	.32	1.97
Cabeza	....do			T.	.60					.12						.10														T.	1.25	2.07
Compana	....do			.15						.45			.02		.10					.12									.05		.70	1.59
Chacon	....do		1.40	.30					.22						.30														.30	.50	.28	3.30
Cimarron (near)	....do			.12					.57	T.					.28					.05						T.			T.	.86		1.88
Clayton	....do		.13											T.	T.					.08										.38	.93	1.52
Clovis	Red								1.13		.12																				.42	1.67
Cuervo	Canadian			T.						T.		.24			T.	.04				.01	.21						T.	.16		.16	1.32	2.14
Dawson	....do								.02						.10	.25														.17	.49	1.03
Elizabethtown	....do				.15										.18	.07				.08										.12	.74	1.34
Folsom	Dry Cimarron		.10						T.						T.	.08				T.					T.		T.	T.	T.	.64		0.82
Fort Union	Canadian			T.						.75	T.									.12			T.						.12	.15		1.14
Hayden	....do									.08					.17		.07			T.	.07									T.	.60	0.99
Hoosier Ranch	....do			.10						.19					T.	T.													.18	.84	.24	1.55
Johsons Park	....do		T.						.19						.11						.04									T.	.26	0.60
Kappus	....do									.30						.15				T.	.05									.30	.40	1.20
Lake Alice	....do														.24	.13														.80		1.17
Logan	....do				.11					3.53																				.12	.15	3.91
Lykins (near)	Red								.10	0.33						0.20															.12	0.75
Maxwell (near)	Canadian			.13																											.35	0.48
Melrose	Red								1.18	1.08						.03															.46	2.75
Miami Ranch	Canadian									.18																				.30	.85		1.33
Montoya	....do							.70											.20												.55	1.45
Mount Dora (near)	....do									.43					.03	.05	.15													.14	*	.90	1.70
Nara Visa	....do			.08						.50						.02					.07										.72	1.39
Ocate	....do									T.				T.																.45	T.		0.45
Palo Verde	....do			.05							.22					.10														.19	.60	.56	1.72
Pasamonte	....do								0.21						.12																1.01	1.34
Pleasant View	....do			.18					.03		.19					0.28		.15									.10	.80				1.83
Raton	....do														T.	.20												.10		*	.88	1.18
Rociada	....do			.10	.09				.09	.06																				.06	.31	0.71
Rosebud	....do									.10					.15	T.														T.	.57	0.82
Roy	....do			.31					T.		.60					.15				.07									.12	.48	.55	2.28
San Jon	....do								T.	.32							T.		T.		.02									T.	.04	0.38
Solano	....do			.04						.22	.01				T.						.10									.33	.64	1.34
Springer	....do																													.20	.12	0.32
Taylor	....do									T.					T.														.10	.30	.12	0.52
Trementina	....do																													*	1.10	1.10
Tucumcari	....do				.45				(*)	1.91						.07					.06									.06	.20	2.75
Valley	Dry Cimarron														T.	.80				T.										.65		1.45
Vance (near)	Canadian				.04						T.				.58	.09					.04								.01	.48	1.13	2.37
Vermelo Park	....do			.32						2.20					.30					.10								T.	T.	.57		3.49
Wagon Mound(near)	....do				T.				.06	.12					.02	.04					.08									.68	.07	1.07
Texas.																																
Amarillo	Canadian					T.		T.		.13						.41			T.	T.	.01										.28	0.83
Archer City	Red			.13	.76			.23												T.	.70	.22										2.04
Arthur City ‖	....do																					.03										0.03
Bonham	....do																					.15									.22	0.37
Canadian	Canadian										1.10					.03					.10										.18	1.41
Childress	Red						T.		.70										T.											T.	.90	1.60
Chillicothe	....do			.02					2.33											.56											.13	3.04

TABLE 2.—*Daily precipitation for September, 1911. District No. 7*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Texas—Continued.																																
Clarendon ‖	Red			.11						3.58																						3.69
Clarksville	do									1.23											1.00											1.00
Claude	do																															1.23
Dalhart ‖	Canadian										.06					.08	.02														.36	0.52
Denison ‖	Red				1.40					.64															.20							2.24
Finlay ‖	do				.50					.35										.30			.30							.43	1.88
Henrietta ‖	do				1.05	T.				.43												.39										1.87
Hereford	do																															
Memphis	do																				.40											0.40
Miami	Canadian							T.	T.	2.82	.10						T.			T.											.12	3.04
Mobeetie ‖	Red																															
Nazareth	do																															
Ochiltree	Canadian								.05	.25					.70		.13				.03									.50		1.66
Pampa	do																															
Panhandle	do																															
Paris ‖	Red				T.	T.				.05												.16	.12	.01							0.34
Plemons	Canadian								.17	T.				.20	T.		.30									.02				.02	0.71
Quanah ‖	Red								.50	.15										.60		T.									1.25
Ringo Crossing ‖	do					.24																.55		1.20							1.99
Romero	Canadian									.48							.37			T.	.20									.70	1.75
Sherman ‖	Red				.85									T.								.12									0.97
Stratford	Canadian								.02								.08												.04	.24	0.38
Sulphur Springs	Red																															
Texline	Canadian																													1.62		1.62
Tulia	Red			.15				T.	2.55	.09						.12					.14											3.05
Wichita Falls	do			.36						.12										.21	.03	.01										0.73
Winfield	do		.24	.24	.77				.72				T.								.14		.86	.42						.08	.07	3.54
Kansas.																																
Alden	Arkansas									.44											.30									.25		0.99
Anthony	do				T.		.01	T.	.05	.37							.22		.11		.45									.92	.23	2.36
Ashland	Cimarron									.42						.17	2.08				.16	.01							.12		.44	3.40
Burlington	Neosho				.10		.35	.47			1.66				.02		1.59		1.75		.63				T.					.18	.66	7.41
Chanute	do						.87	1.81			T.					.15	1.77	T.	.71	T.	.19	T.							.21	.26	5.97
Cimarron	Cimarron							.01	T.							T.	T.				.06	T.			T.	T.					.24	0.31
Coldwater	do						T.	T.		.63							1.13				.11								.27	.15	.41	2.70
Columbus	Neosho				.86	.02		.28	T.	.12							2.82		.09	.16	.38										.01	4.74
Coolidge	Arkansas																															
Cottonwood Falls	Neosho				T.			.11	.01		.01	1.72				.71	.69		.28		.61									.16		4.30
Council Grove	do				1.13		.01	.07		.09	2.15				.34	.07			.37		.43								.23	.04	T.	4.93
Cunningham	Arkansas						T.	T.		.60	.10					T.	.30				.30									1.20	.42	2.92
Dodge City	do							.07	T.	T.						.01					.02									.05	.22	0.37
El Dorado	do				.15		.62	3.72								.41	.98		.29		.82									.25	T.	7.24
Ellinwood	do						.03	.01	.02	.05						.10		T.			.30									.24	.07	0.82
Emporia	Neosho				.51		.06	.12	.02	.39		.92				T.	.16		.56		.87									.06		3.67
Eureka	Verdigris				.20		3.05										1.20		.89		.61					.02						5.97
Fall River	do				.40			1.75									1.10		.95		.40										.35	4.95
Fargo	Cimarron						T.																					T.		.06	.08	0.14
Fredonia	Verdigris				.27		.19	2.13		T.						.27	1.13	T.	.62		.18	T.									.19	.06	5.04
Garden City	Arkansas							T.	.07							.15				T.						T.						0.22
Great Bend	do																															
Greensburg	do									.12	.10					T.	.75				.90				.15				.43		.21	2.66
Grenola	Verdigris				.18			5.20								.20	1.83		.54		.39				.14						.23	8.71
Hess	Cimarron								T.		.25																		T.		.42	0.67
Howard	Verdigris				T.			3.82								T.	T.		.59		.37					.11				T.	.62	5.51
Hugoton	Cimarron							T.	.03							.10	.02			T.									T.	.06	.13	0.34
Hutchinson	Arkansas							1.51		.03	.06					.13	.51				.29								T.	.55	.09	3.17
Independence	Verdigris				.16			1.92	.04	.14							.48		.18		.08									T.	.70	3.70
Iola	Neosho				.12		.18	1.19	T.	T.	.22	.06				2.51	.40		.69		.20									.34	.10	6.01
Irene	Arkansas																			T.				T.					T.		.02	0.02
Jetmore	do							.10	T.							.10					.28									.04	.40	0.92
Kingman	do							1.17		T.	.10				.10		.15		.07		.43									1.37	.38	3.77
La Crosse	do																															
Lakin	do															T.															.33	0.33
Larned	do							.03	T.	.03						.12					.31	.01									.14	0.64
Lebo	Neosho				.16			.13	T.		.41	.16			T.	.02	.27		.40		.95								T.	.13	.25	2.88
Le Roy	do					.06	.05	.65	.08			3.76					3.38	.11	.25	.21		.54				.08				.18	.10	9.45
Liberal	Cimarron			T.				T.	T.						T.	.75	.07	T.		T.	.03								T.	.10	.33	1.28
Macksville	Arkansas							T.	T.	.05	T.					T.	.02				.21	.08					T.			.05	.03	0.44
McPherson	do							.20			12					.02					.12	.16								.16	.16	0.94
Madison	Verdigris				.36			.22		.04	.04	3.55				.05	1.54		.75		.81									.27		7.63
Marion	Neosho				T.		T.	.25	.03		.10	.42			.33	.06	T.		.11		.41				T.					.02		1.73
Medicine Lodge	Arkansas						T.			.49	.05						1.13				.31									1.64	1.82	5.44
Medora	do																															
Mount Hope	do							1.17								.21	.66				.56									.58	.24	3.42
Neosho Rapids	Neosho						.06	.05	.09	T.			.96			T.	.32		.10	.15		.65				T.				.22	T.	2.60
Ness City	Arkansas																			.18										.05	.18	0.38
Newton	do							3.11			.03				T.		.60		.02		.67									.30	.26	5.04
Norwich	do							.12		.08							.38		.05		.78									1.20	1.27	3.88
Oswego	Neosho				1.27			.73	.08	.23							3.30		.01	.05	.10										.03	5.80
Plains	Cimarron									.31						.25															.80	1.06
Pratt	Arkansas							T.	T.	T.						T.	.50	.17			.29	T.								1.04	.74	2.74
Richfield	Cimarron									.05						.07															.22	0.34
Rome	Arkansas				.18			.80		.11							.98		.14		.43											2.64
Sedan	Verdigris				T.	.08		2.50	.41								.15	.57	.37	.06	.03	.11								T.		4.28
Toronto	do				.23	.15		2.15	.23								1.65	.05	.55			.90									T.	5.91
Ulysses	Cimarron								T.							T.													T.		.41	0.41
Walnut	Neosho				.34	.02	T.	1.11	T.	T.	T.						4.99	.02	.47		.25										T.	7.20
Wellington	Arkansas				.14			.21	T.	.14							.84	T.	.03		.31									T.	.02	1.69
Wichita	do				.01		3.26	4.73		T.	T.					T.	.16	T.	.17	T.	.81								T.	.43	.99	10.56
Winfield	do																															
Yates Center	Verdigris				.21					2.45	T	1.08				T.	1.85		.69		.58										.02	6.88
Oklahoma.																																
Ada	Canadian				.44				1.68																							2.12
Alva	Arkansas					T.			.41	T.										T.		.25								1.70	T.	2.36
Apache	Red				.60			1.32	1.70												.66	T.	T.									4.28
Arapaho	Washita			.05				.25	.18	.33																						0.81
Ardmore ‖	Red				.30	.05			2.28	.58												.10										3.31

TABLE 2.—*Daily precipitation for September, 1911. District No. 7*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Oklahoma—Con.																																
Arnett	Canadian						T.	T.	T.	.25	.50										.25								.05	.10	1.15
Bartlesville	Arkansas				.10			.90	.12	.41							.05		.04		.06								.09		1.76
Beaver	Canadian							.10	.33							.45				T.								T.	.02	.02	0.92
Blackburn	Arkansas				.07			.90	.36	.53									.11	.05	.08									.24	2.34
Cache	Red				.99				2.25	.35										.48											4.07
Calvin	Canadian				2.16	.20			.54	.06										1.54		.10									4.60
Chandler ‖	do				T.	.14			1.35	.21	.64									1.75	.20									.10	4.39
Chattanooga	Red				.21				2.08											.39		1.11									3.79
Chickasha	Washita				.28			T.	.90										T.	1.10									T.	2.28
Cloud Chief	do			T.	.10	T.		1.10	.33	.07																					1.60
Durant ‖	Red				1.05	.03				2.26										T.	T.	T.									3.34
Eldorado	do			T.	T.			.05	.59										T.	.33	T.										0.97
Elk City	do							.02	.01	.65																				.15	0.83
El Reno	Canadian				.26			1.50	.30	.10																					2.16
Enid ‖	Cimarron						.15	.10	.13								.05					.78								.73	1.94
Erick	Red						T.	T.		.81											T.								T.	.26	1.07
Fairland	Arkansas				2.85	.06		.76	.02	.80							T.		.15	.92	T.	.20				T.			T.		5.76
Fort Gibson	do				.61	.54			.13	.06										1.11	.17	.49								.21	3.32
Frederick	Red				.06				2.02											1.33											3.41
Goodwell	Canadian																														
Guthrie	Cimarron							.25	1.00	1.00																					2.25
Guymon	Canadian																														
Harrington	Red			.20						1.20																				.30	1.70
Hartshorne	Canadian							.50	.45											19		.42									1.56
Healdton	Red			.05	.79				1.85											.27	T.	.29									3.25
Helena	Cimarron			.05	.20				.09	.90							.30				.12									.33	1.99
Hennessey	do			T.	.85			.07	.50	.87																				.03	2.32
Hobart	Red				.06	.02		.35	.17	.16									T.	.17	T.										0.93
Holdenville ‖	Canadian				.18	.20			.30	.12										1.40	.26	.04								.04	2.54
Hooker	do			T.					.03	.01					.12	.04				T.	T.							.03	T.	.40	0.63
Hurley	Cimarron			.10												.28	.20											T.	T.	.65	1.23
Idabel	Red				1.30															.50										.60	2.40
Jefferson	Arkansas				.06	T.		.19	.28	.92							.16		T.		.31									.36	2.28
Kenton	Cimarron				.04									.01	T.	.06	T.			T.	.01						T.	T.	T.	.30	.19	0.61
Kingfisher	do			.03	.12			.46		.16							.03		.01	.04	.05										0.90
McAlester	Canadian				1.64			T.	1.52	.01										.39		.18									3.74
McComb	do																														
Mangum ‖	Red			.02		.16		1.50																						.25	1.93
Marlow ‖	Washita				1.48	.51			.41											.88											3.28
May	Canadian																														
Meeker	do				.12				.80											2.50											3.42
Muskogee	Arkansas			T.	1.05			.25	.20										.33	1.30		.40								T.	3.53
Mutual	Canadian									.35									.18											.38	0.91
Neola	Washita				.18				.90	T.									T.	.72	T.	T.									1.80
Newkirk	Arkansas	.41						1.01	.10	.35							.36													.52	2.75
Norman	Canadian				.32			.78	.63											1.04	T.										2.77
Oakwood	do			T.	T.			1.02	.53										.04		.12									.09	1.80
Okeene	Cimarron				.03	.11		.07	.05	.31											.06										.02	0.65
Oklahoma	Canadian				.08			.77	.10											.43	T.									T.	1.38
Okmulgee	do			.53	.28				1.99										.20	2.00	T.	.22								T.	5.22
Pauls Valley	Washita			.26					.15										T.	.59	T.										1.00
Pawhuska	Arkansas				.15			.73	.15	.80			.10			.05				.05	.04									.02	2.09
Perry	do				.14	.04	.25	3.00	.12	1.20									T.		T.									.75	5.50
Ravia	Washita				.57				3.20													.26								.44	4.47
Sac and Fox Agency	Canadian				.10			.64	2.22			.88								1.55											5.39
Shawnee ‖	do				.07	.25			1.64											1.87	.17	T.									4.00
Snyder	Red				.18			T.	2.50										T.	.56	T.										3.24
Stillwater ‖	Cimarron																														
Tulsa ‖	Arkansas				T.	.45			1.11		.28									.69	T.	.17									2.70
Vinita	do				1.13		.42	.50		1.24																					3.29
Wagoner	do																														
Waukomis	Cimarron			.21	.22		T.	.02	T.	.12							T.		.02		.05								.04		0.68
Waurika	Red			.04	1.01				T.										.14	.06	.20	.02								T.	1.47
Weatherford ‖	Canadian				.15	T.	.19		.72	.89										T.	T.		T.								1.95
Webbers Falls	Arkansas																			1.50		.10	2.00							.41	
Whiteagle	do				.01			1.10	.36	1.00							.23				.50										3.20
Woodward	Canadian									.18									T.											.23	0.41
Missouri.																															
Belle	Meramec			.05		.27	.76	.08		.18	.15						.80				.08	.21								.08	T.	2.66
Birchtree	Black				.60	.20	.76	.78	.17	.14	.38						.23		.22	.30							.15					3.83
Cardwell	Mississippi					.42												2.08		.54		.42								.45		3.91
Carruthersville	do				T.	1.15		.07	.59	.13	.38	.02	.29				.02	.15		2.00		.15								T.	T.	4.95
Cassville	White				.46	.13		.25	.79	.64				.10					1.19	.63	.75	.65										5.59
Dean	Neosho				.51	.68		1.16	.03	.08	.01								.21	.57	.22	.45										3.92
Doniphan	Black				.45	.55			.65	T.	.09	.06		.45				.54		.83						1.16			T.		4.78
Gano	Meramec			.18	.15	.42			.16		.15	.16					.70		T.	.18		.40							.15		2.65
Goodland	Black				.70	.79		.15	1.11	.06	.27	.20					.44	.12		.11		.45				.32				.26		4.98
Greenville	Mississippi				.18	.05		.65	.06		.05	.30		.30			.20	.19	.09	.15		.22				.75				T.		3.10
Hollister	White				.65	.25		.65	1.40	2.50									.48	.52	.30	1.20								.65		8.60
Ironton ‖	Mississippi				.10	.70	.20	.85		.97		.67	T.	.48			.33	.25		.08		.30					.15			.10		5.18
Jackson	do				.37	.17		.10	.17		.45	.03					1.25	.68	.62			.30				.56				.09		4.79
Joplin	Neosho				1.80			.15		.21									*	*	1.45											3.40
Koshkonong	Black				.20	.02	.03	.03	.09	.19	T.	.04							.47	.45	.05	.45							T.		.07	2.09
Lamar ‖	Neosho					.39			.08	T.	.10	.21					3.65	.89		.26		.34								T.	.03	5.95
Marble Hill	Mississippi	.20				.40		.34	.10		.15		.30				.30		1.04	.90						.40						4.13
Mountaingrove	White				.30	.48	.11	.08	.40	T.	.07	.05					.14	.07	.66	.72	T.	.33				T.			T.	.12		3.53
Mount Vernon	Neosho				.30			.15	.45	.07							.45		.43	.25	.21	.30										2.61
Neosho	do				1.09	.09		1.33	.32	.16									.08	1.09	.13	.40										4.76
New Madrid ‖	Mississippi					.02	.51		.81	.50	.03	.02	.28	.45				2.20		1.45			.20									6.47
Oakfield	Meramec				.04	2.21		1.59	.28		.37	.07					1.18	.90	.14		T.	.16				.61	1.27			.08		8.90
Olden	White				.32		.21	.39	.17			.55						.20	.10	.70												2.64
Rolla	Meramec				.24	.79	.10	.02			.08	.27					1.59		.10	.15	T.	.33				.01				T.		3.68
Springfield	White				.32	.20		.09	.12	.05				.03			1.73		.70	.45	.69											4.38
Steelville	Meramec																														
Kentucky.																															
Blandville	Mississippi					.69		.47	.77	.03	.04	.05	.20				.09	.20	.07	.11		.67				T.						3.39
Lynnville	do																														

TABLE 2.—*Daily precipitation for September, 1911. District No. 7*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Tennessee.																																
Arlington ‖	Mississippi						.44		.22			T.										.20									0.86
Bolivar ‖	do						.04		T.									.15													0.19
Brownsville ‖	do						.16		.15		.40	T.	T.	T.				.30		.20	T.	.06									1.27
Covington ‖	do						T.		.90		.10							.04				.05									1.09
Dyersburg ‖	do						.50		.20		1.40	.40		.20			.75			.70		.15								.20	4.50
Jackson	do					1.30			.80	.50		.57	.18				1.05														4.40
Kenton	do					.77		.05	.02		.28	.30	.25				.08	.05		.66		.05							.01	.16	2.68
Memphis	do					T.			.01	.04	T.	T.									.06	.04								.01	0.16
Milan ‖	do						.12		.01	.09	1.16	.02	.15	.60				.21		.98	.03	T.									3.37
Trenton	do					.09		.17	.08	T.		.30	.26				.14			.26		T.								.52	1.82
Union City	do					.93			.38		.34	1.12	.38					.72		.67		.03									4.57
Arkansas.																																
Alicia	White									1.10							.20			.10	.30								T.		1.70
Amity	Ouachita																															
Arkadelphia (near)	do		T.			.19			.13	.18												57									1.07
Arkansas City	Mississippi			.02																											0.02
Batesville	White					.96	.12	.02	.04	.70	.18	.14			.32					.78		.84								.18	4.28
Bee Branch	Arkansas					T.			.10	.80	.50									.95		1.55								.65	4.55
Benton	Ouachita												3.10		.70							2.00								3.33	9.10
Bentonville	Arkansas			T.	.95			.54	.49	.65									1.27	.45	1.55										5.90
Bergman	White				.58			.94	.31		.42									1.78	1.18	.62									5.83
Black Rock	do					.70	.13	.12		.04	.21	.15						.06		.14		1.10									.20	2.85
Brinkley	do					T.														T.			.65							.38	1.03
Calico Rock	do					1.60		1.00	1.20	.50		T.			T.					1.25		1.40									6.95
Camden	Ouachita			.02	.30					.48																					0.80
Centerpoint	Red				.08				T.		T.	.80								.15	.34	.35								1.00	2.72
Clarendon	White												T.								T.	.85	.11							.84	1.80
Conway	Arkansas				.47		T.	.13	.59	T.										.37	T.	1.95								1.79	5.30
Corning	White				.03	.61		T.	1.55	T.	.22	.25					.06	.21	.09	.81		.68								.10	4.61
Dardanelle	Arkansas					.22		.10	.06	.35					1.58					1.00		1.50								.86	5.67
Dodd City	White				1.75			.32	.25		.73									3.40		.91									7.36
Dutton	do																															
Eldorado	Ouachita																														0.00
England	Arkansas					T.					T.		.15									2.00								4.25	6.40
Eureka Springs	White			.14	2.15	.10		.58	1.09	1.18										2.12	1.29	.46									9.11
Fayetteville	do			.10	1.67	.72		.41	1.10	.32										3.20	1.25	.84									9.61
Fordyce	Ouachita								.15	31												56								.02	1.04
Fort Smith	Arkansas				1.66				.60										.52	.43	.42	.06								.73	4.42
Fulton	Red													.28								.25									0.53
Hardy	White				.44	1.04	T.	.54	.15	.46	.08	T.								.12	.13	.26	.47							.35		4.04
Helena	Mississippi											.22											.20	.14							T.	0.56
Hot Springs	Ouachita																					3.10								1.20		4.30
Huttig	do												.03																			0.03
Jonesboro	White					.11			.05		.24	.05								.99	.15	.63								.33		2.55
Junction	Ouachita			T.									.32								T.	.21									0.53
Lake Farm	Arkansas																					.70									0.70
Lewisville	Red		.16		.10				T.	T.											T.	.23			.15						0.64
Little Rock	Arkansas			.03	.30			.53	T.	T.		1.21							T.			1.79								2.57	6.43
Lutherville	do			T.	.40	.45	.01	T.	.63	.13				.04						3.25		1.63								.48	7.02
Malvern	Ouachita					.12			.30		.37		.42									1.70	T.							.22	3.13
Mammoth Spring	White				.08	.31	.13	.03	.20	.08	.08									.46	.17	.16	.39							.68	2.77
Marked Tree	St. Francis					T.	.25				.21	.14										.74								T.	1.34
Mena	Ouachita				.13				.78											.30		.26								.80	2.27
Newport	White					.10				.50	1.55	.20								.70		1.05								.44	4.54
Ozark	Arkansas				1.32	.25	.13		.92		T.									.97		1.60								.09	5.28
Pine Bluff	do									.04											.07	.60	.20							.58	1.49
Pocahontas	White					1.20			.35								.06			1.20	.04	.70									3.55
Pond	Arkansas			T.	.60			.89	.57	1.11										30	1.40	1.04								T.	5.91
Portland	Ouachita			.56																			.28								0.84
Prescott	do			T.		.22				.15	.03										.02	T.	.10								0.52
Rogers	Arkansas			T.	1.84			.51	1.27	1.41									1.05	1.36	1.10	1.00								.46	10.00
Springbank	Red			1.34		.20				.22											.65		.06							T.	2.47
Stuttgart	Arkansas											.11										.82							T.	3.75	4.68
Subiaco	do				.87	.03	T.	.13	.98	.15				.02						.93		1.80							T.		4.91
Swain	White			.94	.10			1.13	.70	.74		T.								.98		.88							T.	.84	6.31
Texarkana	Red					.05				T.					.15						.06	T.	.37			T.		T.			0.63
Warren	Ouachita									.52												.57									1.09
Whitecliffs	Red		T.			.84				1.02										T.	T.	.60									2.46
Wiggs	Ouachita				.03						.31	.05								T.		1.13								1.06	2.58
Wynne	St. Francis									.46		.12	.05									.56	.05							.07	1.31
Mississippi																																
Aguilla	Yazoo							.10																							.10
Austin	do					.08						.09									.28								.27		.72
Batesville ‖	do											.07	.70																		.77
Byhalia	do					T.		.02	1.43	.02	.03																				1.50
Canton	Big Black		.06	.03			T.		.17		.02						.05				.03	.05			.01						.42
Charleston	Yazoo									.50		.32																			.82
Clarksdale ‖	do									.67		.20											.04								.91
Coffeeville	do						T.		.01	.78	.14														1.37					T.	2.30
Corinth ‖	Mississippi						2.30	.20	.38	.02	.12	.52								.10											3.64
Crenshaw	Yazoo					T.					.23	.04								.02		T.			T.	.09				T.	.38
Denmark	do									.15																					.15
Duck Hill	do										.10	T.								T.				T.	T.					.33	.43
Edwards	Big Black		1.65						1.20	.15																.05					3.05
Enid	Yazoo						.05			.69	.14																				.88
Fayette	Mississippi		2.40														T.				T.	.25	.18			T.	T.				2.83
Greenville ‖	Yazoo			3.33						.35												.01	.35								4.04
Greenwood ‖	do									.05		T.																			.05
Grenada	do									.09	.54														.04						.67
Hernando ‖	do									.33	.90												T.								1.23
Hickory Flat	do							.95		.15	.05			.03																	1.20
Holly Springs ‖	do							.28		1.18	.42		.47			T.															2.35
Kosciusko ‖	Big Black			.10	.40		.01			.07		.02														.19					.79
Lake Cormorant	Yazoo										.07									T.		.10								.09	.26
Lula	do																					.14								T.	.14
Marks	do												.06																		.06
Natchez ‖	Mississippi			.10	.06					.60						.25								2.00					.18		3.16

TABLE 2.—*Daily precipitation for September, 1911. District No. 7*—Continued.

Stations.	Watershed.	Day of month. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total.
***Mississippi*—Con.**																																
New Albany	Yazoo					T.		.16		.38																					.22	.76
Pontotoc	do						T.	.20		.74	.30														.20							1.44
Port Gibson ‖	Mississippi		T.	.24			T.			.13	T.						T.					T.	.02	.40		T.	.13			T.		.92
Rosedale ‖	Yazoo			.03																		.08	.45									.56
Senatobia	do					.02				.16		T.										.20						T.			T.	.38
Shoccoe	Big Black		T.	T.	T.	T.			T.	.21														1.00	.02	T.						1.32
Suffolk	Mississippi		1.33	.02	T.	T.	.23		.07							.09	T.	T.					.50	.64		.14	.22		.01			3.25
Swan Lake ‖	Yazoo							T.			T.																					T.
Tchula	do		T.	T.			T.		1.45		.43	T.													T.						T.	1.88
Utica	Mississippi		.05			.04											.85					.78				T.						1.72
Vicksburg	do		2.16			.05			.06													T.		T.	.01	.02	.17				T.	2.47
Water Valley	Yazoo								.25	1.15	T.	.15											T.		T.							1.55
Woodville	Mississippi		.20		.13		T.	.68		.05						.33	.48						.08	.15		1.00			.12	T.		3.22
Yazoo City ‖	Yazoo			.12	T.		.07																		.39	.06	.04					.68
Louisiana.																																
Abbeville	Coast		.64	.05	.22	.02	T.			.24	.52					.15	.40			.10			T.	.21		.05	.06	1.02	.30	.20		4.18
Alexandria ‖	Red			.15	.15	1.07																T.	T.	T.								1.37
Amite ‖	Coast			.50	.75	T.	T.	1.06				T.		T.						T.	1.25					1.20		.20	T.	.52		5.48
Avoca Island	do																															
Baton Rouge ‖	do			T.		.29	.36	.49	.06		.10						.04				.15				.67		.06	.05		.20	.13	2.60
Burnside §	do	T.	.86		1.16		.36	.14		T.		T.	.90		.50		.80			.22	.03	.25		.32	.25		T.		.54			6.33
Burrwood	do		1.72	.85		.10								T.					.04					.08			.48	.46			3.73
Cades	do		T.		.08	.58	.32		.55			T.		.42		.06				T.	.15			.13		T.	T.	T.	.12			2.41
Calhoun	Ouachita		.41		.63			T.					.12																		1.16
Cameron	Coast	.32			T.	.24					.36											.11								.30	.32	1.65
Carrollton	do																															
Cheneyville ‖	Red						.05		1.45																.19							1.69
Cinclare	Coast			.03		.33	.03	.10		.10										.25				.65	.05	.60	.05		.65	.55	.10	3.49
Clinton ‖	do			.11	.27			.12	.07		.02			.06							T.			.16	1.40		.05			.28		2.54
Collinston	Ouachita		.10	.18								.10																				0.28
Covington ‖	Coast		.90	.04	1.16		.07	.54			.36	.01		.02	T.		.04					.60			.27	.24	.06	T.	T.	.10	T.	3.51
Dodson	Red				.21						.36		.14									.23	.80									1.74
Donaldsonville ‖	Coast	T.		.35				.35			T.				.53			.15			2.85				1.10		.32			.72	.12	6.49
Dutchtown ‖	do		T.	.45	.14	T.	.20	.70	T.	.10	.20			T.				T.	.14	.50	T.				1.10				.69			4.22
Farmerville ‖	Ouachita												.25																			0.25
Ferriday	do		.10																													0.10
Franklin ‖	Coast	.02	T.	1.87		1.47	.22	1.06	.63	.25	.11	.12					.13	.38			.15	.32		.06	.31			.07	.04	.36		7.57
Grand Cane ‖	Red				.22	.12						.03																				0.37
Grand Coteau	Coast		.12	.50	.30		.58	.52		.48							.15							.20	.25	.35	.15		.18	T.		3.78
Hammond	do			.20			1.00							1.40			.18			1.05				.60	.01	.01	.01		.21			4.67
Houma	do	*	.41		.27	.07		.07	.55							.53				1.12	.41		.12		.70	.16		.23	.90			5.54
Jena	Red		1.87																													1.87
Jennings ‖	Coast			1.38	.22			.07				.17						15							.49		.03				.04	2.55
Lafayette ‖	do		.48	1.10	.06		.36	.05		.26	.03						.05	.62			.22				.98		.61			.10		4.92
Lake Charles ‖	do			.40		.80	.45	.23	1.28	.11	.25						.13										.51				.23	4.39
Lakeside	do		.30	.18			.10	.05	.25	.15	.10			.08								.98										2.19
La Rose (near)	do		.25	1.12		.10		.25	.07	T.	1.03		.70		.25	.16					.13			.30		.12			.05	.08		4.61
Lawrence ‖	do	.01	.02	.41	1.85		1.80			.05	.22			.77	.04		.93									.16	1.46			.03	.30		8.05
Leesville	Sabine																															
Liberty Hill	Red	*			.65																											0.85
Logansport ‖	Sabine						10																	28							.27	0.65
Melville ‖	Red	T.	T.	T.		T.	T.		T.	T.							.04				.07				.59	T.	.60	.05		T.		1.35
Minden ‖	do			T.		.36															.98		T.					T.	T.			1.34
Monroe ‖	Ouachita			.39		.15				T.																						0.54
Morgan City ‖	Coast	.47	T.	1.54		T.	.67	.28		T.	.20	.04				.18	1.25	.17			.31	T.			.20		T.	.07	.11	.22	.31	6.02
Newellton	Mississippi		1.75	.13		1.09				T.																						2.97
New Iberia	Coast	T.	T.		.25	.10	T.	T.	T.	.45		T.			T.	T.	T.			.28			.50	1.00	.18		.15	T.	T.	T.	2.91
New Orleans (1)	do	T.	.42	.01	.10	1.23	.18	.30	T.	.13	T.			T.	T.		.75				.08	1.22		.05	T.	.60	.03		.07	.09	.17	5.43
New Orleans (2)	do		.11		.02		.02	.61			.17			.07		.19					.19	.59		.03		.03	.06		.32	.24		2.65
New Orleans (3)	do	.41	.05			.61	.20	.12			.24					.07					.03	.31		.02	.03	.23	.01		.02	.26		2.61
New Orleans (4)	do		.10		.01		.01	.59			.15			.05		.18					.17	.56				.02	.04		.29	.22		2.39
New Orleans (5)	do		.13	.36	.33	.91	.01	.91	.01		.50	.21				.36					.33	.35				.22	.02		.11	.10	.11	4.97
New Orleans (6)	do		.29		.22	1.16	.17	.60		.04	.02					.80					.10	1.53		.04	.29	.34			.13	.19	.15	6.07
New Orleans (7)	do		.24		.55	1.00		.02	.02		.12					.25					.01	.86		.30	.09	.33	.14		.02	.25	.05	4.25
New Orleans (8)	do		.67	.54	.40	1.77				.19	.11					.42					.06	.64				.51	.01		.04	.03	.11	5.50
Opelousas ‖	do			T.		T.			.41		T.								.67		.21		T.		1.83		.14				3.26
Paradis	do		.06	.15	.10	1.50	.05	.77	.12				.20								1.27		.02		.12		.05		.08			4.49
Pearl River ‖	Pearl	T.		.02	.28	.32	.04					T.		.06	.54		.16				3.14		.02		.48	.02	.04	.10	T.	.04		5.26
Plain Dealing	Red									.23										.16	.39	.85									.12	1.75
Rayne ‖	Coast			.40			.20	.20	2.00	T.								.40							1.50	.10				.44	.05	5.29
Reserve ‖	do																.62				.09								T.		0.71
Robeline ‖	Red								.76															T.						.25	1.01
Ruston	Ouachita											.25																				0.25
St. Francisville ‖	Mississippi		1.27		1.25				1.25		.23														T.		T.					4.00
Schriever ‖	Coast	.08	1.58	1.48	.01		.22	.88	.25			.01	.33		.20	.04					1.81	.30		T.		.11	.33	.20	.08	T.		7.91
Sheridan	Pearl	T.	1.10	.75	.05	1.50	T.				T.		.15			.02	T.			1.25			.05	.03	.15	.30	.14		T.	.06		5.55
Shreveport	Red		.01		.04																	.01	T.							.01	.86	0.93
Simmesport ‖	do			.15		.34										T.	.03	.03			.08				T.		.01					0.64
Sou. Univ. Farm	Coast	.10	.11			.30		.07	T.			T.		T.		.65				.05	.06	1.56	T.	T.		T.			.55	.13	T.	3.58
Sugartown	do			1.80	.20																		.60	.11						1.00		3.71
Tallulah	Mississippi		1.60																						.58							2.18
Walker	Coast		2.20	.20		.20	.16	.25												.56	.20			.17		.20			.30			4.44

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1911. District No. 7, Lower Mississippi Valley.*

Date.	Colorado.						New Mexico.				Texas.				Kansas.										Oklahoma.			
	Lamar.		Leadville.		Pueblo.		Albert.		Cimarron.		Amarillo.		Paris.§§		Dodge City.		Ellinwood.		Iola.		Liberal.		Wichita.		Ardmore.§§		Bartlesville.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	101	55	63	37	92	57	91	61	83	49	90	62	90	60	95	63	99	63	92	63	97	56	93	68	92	65	94	60
2....	94	57	62	35	83	55	95	58	81	52	91	61	95	62	94	59	99	61	93	62	95	57	93	64	96	64	95	60
3....	94	55	58	33	79	53	90	59	75	47	83	61	95	68	90	63	95	54	90	63	91	57	91	67	95	67	95	64
4....	90	55	63	35	86	50	92	58	79	45	92	56	89	71	86	60	90	61	78	68	90	55	78	68	86	70	79	67
5....	97	51	65	34	94	50	91	61	81	45	95	63	96	70	94	62	98	64	93	68	97	55	91	67	96	70	96	66
6....	90	64	57	32	84	55	93	59	77	44	93	67	97	71	95	70	100	71	96	69	94	64	97	65	96	72	99	72
7....	86	63	62	29	71	56	80	60	79	50	79	62	98	73	74	57	90	57	81	65	81	57	73	63	95	74	77	64
8....	82	66	69	31	79	56	87	59	75	41	84	62	89	73	78	64	76	63	85	68	86	60	82	66	85	58	88	64
9....	96	63	62	37	89	58	89	64	75	50	81	64	96	70	81	65	81	62	83	67	86	60	79	69	91	69	83	67
10....	100	69	68	36	91	59	93	56	82	45	88	67	98	71	93	66	96	71	88	71	99	61	92	73	93	71	94	68
11....	100	62	72	38	93	58	97	61	86	48	92	64	100	71	99	66	101	66	93	68	100	60	97	74	96	73	98	70
12....	100	63	72	40	94	56	91	61	85	52	91	64	104	73	97	69	102	63	95	72	100	61	97	73	99	73	101	72
13....	101	67	66	42	90	68	90	63	82	50	92	67	101	74	100	72	105	72	96	73	101	67	97	74	97	74	100	74
14....	99	65	53	41	78	61	92	64	77	56	92	66	99	73	96	73	102	76	95	75	100	68	97	75	96	73	98	72
15....	88	63	59	32	80	58	86	62	78	54	92	64	99	73	81	63	84	59	94	69	83	61	87	69	95	74	99	70
16....	98	60	65	32	88	54	92	63	80	49	93	64	99	75	87	64	90	60	83	69	92	62	82	70	97	75	96	72
17....	98	60	63	39	90	59	95	59	83	47	94	68	99	75	98	70	102	72	92	71	99	64	95	73	95	72	98	70
18....	78	51	60	31	68	43	96	56	70	41	73	57	101	75	77	55	84	56	75	56	84	54	81	57	98	76	85	72
19....	88	57	60	28	66	48	91	60	70	44	69	54	98	76	75	46	80	40	73	50	73	43	72	51	78	61	76	61
20....	85	42	54	28	78	48	87	49	77	45	84	57	98	68	85	56	79	55	66	57	87	55	70	58	92	65	75	61
21....	92	55	65	29	87	41	98	57	80	42	86	57	84	68	82	54	82	48	75	51	87	55	76	51	90	68	79	54
22....	96	58	58	35	87	48	90	53	80	41	85	60	83	70	87	60	89	55	82	51	91	57	82	56	88	66	86	48
23....	92	59	60	36	89	54	86	57	80	47	93	62	92	66	89	64	93	67	85	61	97	62	90	67	93	66	91	51
24....	76	53	61	35	78	51	94	52	81	47	90	65	93	67	80	52	82	53	89	66	88	50	82	63	95	68	96	67
25....	80	58	64	36	78	47	90	59	82	42	91	66	96	69	81	56	76	55	87	62	95	56	84	61	95	67	97	67
26....	90	58	59	39	84	56	90	59	80	54	86	63	96	69	91	56	94	56	88	62	93	58	88	61	95	69	94	64
27....	92	60	62	33	84	51	91	60	82	49	90	65	98	70	94	69	99	70	91	69	96	55	94	71	95	70	97	68
28....	94	67	56	39	84	55	90	61	80	48	90	65	96	70	98	72	104	74	92	71	98	68	95	72	95	71	97	69
29....	65	59	55	40	65	52	82	59	72	54	89	65	97	71	75	55	85	58	78	62	91	63	81	63	95	72	91	71
30....	78	52	57	38	82	51	87	52	72	55	82	66	93	71	84	56	88	56	83	59	83	55	81	60	89	75	88	61
Mns..	90.7	58.9	61.7	35.0	82.9	53.6	90.5	58.7	78.8	47.8	87.7	62.8	95.6	70.4	87.9	61.9	91.5	61.3	86.4	64.6	91.8	58.5	86.6	65.6	93.3	69.6	91.4	64.5

Date.	Oklahoma.														Missouri.										Lynnville, Ky.		Jackson, Tenn.	
	Enid.§§		McAlester.		Mangum.§§		Muskogee.		Oklahoma.		Weatherford.§§		Woodward.		Caruthersville.		Ironton.§§		Lamar.§§		Olden.		Springfield.					
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	95	61	90	62	99	64	88	62	91	66	95	64	91	60	88	58	89	50	89	61	85	60	84	63	.....	.....	91	59
2....	97	58	95	65	97	63	91	63	95	65	99	59	92	62	91	61	91	55	90	63	86	63	84	65	.....	.....	92	64
3....	99	60	91	68	93	68	90	69	93	70	95	62	91	62	90	68	95	61	89	63	90	64	86	68	.....	.....	93	62
4....	90	64	90	64	105	68	81	69	86	69	88	68	88	60	91	68	84	59	73	70	84	67	74	68	.....	.....	94	65
5....	99	68	95	72	101	70	91	72	95	70	102	68	94	62	87	70	87	68	91	68	87	69	86	69	.....	.....	90	68
6....	101	70	96	74	93	71	93	73	96	73	99	69	98	74	93	68	92	60	93	72	89	66	90	70	.....	.....	95	69
7....	89	67	94	75	84	67	86	69	87	70	96	72	88	71	89	70	82	65	79	69	83	66	76	69	.....	.....	94	71
8....	90	67	83	68	93	68	84	67	85	69	81	66	86	65	93	71	83	66	84	68	79	66	76	67	.....	.....	94	70
9....	98	68	94	70	97	70	88	68	90	72	91	68	86	67	89	70	84	67	82	65	86	69	84	66	.....	.....	94	70
10....	98	70	95	73	101	70	91	70	93	72	94	69	95	73	91	69	88	68	89	62	89	67	84	67	.....	.....	93	69
11....	102	69	97	73	102	70	94	70	96	73	99	71	99	68	91	71	88	65	92	69	88	68	88	69	.....	.....	92	72
12....	103	68	100	74	103	71	97	74	96	74	99	69	100	67	97	71	96	68	97	71	94	69	92	71	.....	.....	95	70
13....	103	73	98	75	90	71	96	72	98	74	100	71	100	74	95	70	90	66	96	71	93	70	91	72	.....	.....	99	69
14....	101	73	96	74	89	70	93	73	96	73	98	72	100	74	94	74	92	68	94	79	90	73	90	73	.....	.....	94	73
15....	101	69	97	78	88	70	94	72	96	73	98	69	93	67	94	73	93	75	94	72	91	74	90	72	.....	.....	93	70
16....	100	73	96	75	89	68	95	72	95	73	98	71	98	68	96	73	84	69	85	56	85	69	81	66	.....	.....	95	71
17....	100	70	97	76	78	70	94	72	95	75	97	72	99	74	94	72	89	69	92	67	91	70	89	71	.....	.....	98	74
18....	73	67	98	75	69	60	95	70	90	61	80	74	89	64	94	72	92	69	75	71	92	70	85	58	.....	.....	96	74
19....	80	58	95	61	83	58	73	59	72	56	72	60	76	45	.....	.....	.....	.....	75	60	75	56	74	58	69	54	85	79
20....	80	58	92	65	86	60	84	63	84	62	84	60	89	53	.....	.....	.....	.....	78	50	71	56	70	54	69	55	97	62
21....	80	60	89	69	89	61	81	65	83	65	85	61	82	54	.....	.....	.....	.....	73	62	76	53	77	61	70	55	83	60
22....	90	57	88	64	92	64	82	59	84	63	81	58	88	54	83	59	76	44	83	54	76	49	76	53	.....	.....	82	55
23....	94	61	92	66	99	68	87	63	88	68	97	69	95	58	89	55	82	46	84	57	83	54	82	58	.....	.....	97	54
24....	97	60	95	69	98	66	91	69	91	69	96	64	90	67	94	60	87	56	90	62	87	62	86	66	.....	.....	92	59
25....	100	61	96	68	96	67	92	69	92	67	100	66	100	65	95	66	89	64	92	67	89	67	87	69	.....	.....	94	64
26....	95	62	96	69	99	67	90	68	91	71	96	66	94	57	94	70	86	67	90	66	87	65	85	67	.....	.....	93	64
27....	99	69	96	70	100	68	93	69	93	70	100	66	98	71	97	67	91	64	92	67	90	68	87	69	.....	.....	98	64
28....	99	71	96	73	101	68	93	71	93	71	99	69	98	71	94	70	90	67	91	72	89	70	87	70	.....	.....	98	67
29....	98	70	97	73	96	69	94	76	93	70	99	70	95	68	95	70	80	72	81	71	87	70	79	62	.....	.....	94	68
30....	95	67	89	71	96	67	87	71	88	71	92	69	89	65	85	64	80	55	87	63	80	55	80	61	.....	.....	82	60
Mns..	94.9	65.6	94.1	70.3	93.5	67.3	89.6	68.6	90.8	69.2	93.7	67.1	92.7	65.0	92.0*	67.8*	86.2	62.5	86.5	65.4	85.7	65.1	82.9	65.4	.....	.....	92.9	66.5

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1911. District No. 7*—Continued.

Date.	Tennessee.				Arkansas.																		Mississippi.					
	Kenton.		Memphis.		Bentonville.		Corning.		Dardanelle.§§		El Dorado.§§		Fort Smith.		Little Rock.		Pine Bluff.§§		Texarkana.§§		Wynne.§§		Clarksdale.§§		Corinth.§§		Greenville.§§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	88	59	84	68	85	58	88	55	86	56	89	61	88	64	85	64	88	61	86	62	87	60	87	62	88	60	89	63
2....	88	65	84	70	88	59	85	61	89	59	87	64	90	66	84	69	85	62	88	70	81	64	89	66	92	63	91	65
3....	92	69	88	73	87	63	89	64	91	62	89	67	90	71	88	70	90	67	88	70	87	65	91	69	93	68	90	70
4....	91	66	88	74	73	70	88	68	85	71	88	71	83	71	85	70	89	70	90	72	87	67	88	70	88	68	89	69
5....	88	70	87	75	89	69	88	68	92	71	92	73	93	71	89	73	92	73	93	72	90	70	92	71	90	70	92	71
6....	82	67	91	76	91	71	92	68	94	72	93	72	94	74	91	74	95	74	93	75	95	73	93	73	94	66	94	73
7....	91	71	91	75	78	67	87	69	93	70	93	73	91	73	92	72	94	73	92	73	95	73	95	73	89	70	94	73
8....	92	70	92	75	78	67	86	69	84	69	94	70	78	70	90	73	94	72	93	73	91	71	96	71	95	69	95	73
9....	93	69	87	72	87	65	85	70	91	68	94	71	90	69	90	71	92	72	94	72	90	70	93	71	95	70	93	71
10....	92	68	89	73	89	68	91	69	93	69	94	73	92	71	91	73	94	72	93	73	93	71	91	72	94	69	93	73
11....	90	69	90	76	91	69	89	72	94	71	95	73	95	73	92	73	95	73	95	73	98	74	95	73	94	71	94	74
12....	96	70	93	77	95	71	96	72	98	71	98	73	97	74	96	74	98	74	97	76	92	73	97	73	96	70	96	75
13....	96	68	94	78	94	71	97	69	98	70	97	72	98	74	94	75	96	74	96	75	95	73	97	72	99	70	95	73
14....	95	72	92	78	90	73	93	75	95	71	94	74	94	75	93	76	96	76	96	76	96	74	96	73	96	72	96	74
15....	94	72	90	76	91	71	93	75	95	72	94	73	95	76	91	76	94	75	95	75	90	75	93	73	92	72	92	73
16....	93	72	90	77	89	71	92	73	96	74	94	74	94	74	92	74	94	75	96	76	94	75	94	74	94	71	94	75
17....	96	71	91	75	92	70	94	72	95	72	94	73	94	74	92	74	94	74	96	75	95	74	94	72	96	71	94	74
18....	97	72	92	74	91	64	96	77	95	71	95	73	95	71	92	70	95	73	96	75	96	73	95	71	97	72	94	74
19....	84	66	80	65	69	58	77	66	80	69	90	70	75	65	80	67	84	70	93	73	80	70	86	69	84	68	90	72
20....	84	60	81	64	80	58	79	58	82	64	91	70	84	66	84	63	86	65	91	70	81	66	88	63	89	63	91	67
21....	84	.....	81	64	77	55	.....	.....	86	64	88	70	85	67	81	64	80	65	89	71	79	64	83	66	86	66	85	68
22....	.....	52	78	58	80	53	.....	.....	79	57	87	69	80	61	78	59	84	63	83	69	78	56	83	59	84	57	87	67
23....	83	53	83	61	85	59	.....	.....	87	58	82	63	87	63	85	63	88	62	87	65	89	54	91	59	88	57	92	64
24....	92	59	89	68	88	65	.....	.....	92	60	93	64	91	69	89	69	93	66	92	69	92	57	92	62	92	62	92	65
25....	94	65	89	71	89	67	.....	.....	93	67	93	66	92	70	89	71	92	67	92	69	92	65	93	65	92	66	92	67
26....	93	67	89	72	89	65	.....	.....	90	66	95	67	90	70	89	71	94	68	92	71	92	66	93	66	94	66	94	69
27....	98	66	92	72	89	67	.....	.....	93	68	96	69	93	71	92	72	96	69	93	71	90	66	97	66	93	66	94	70
28....	96	67	90	75	88	68	.....	.....	94	69	94	69	93	73	91	75	95	70	94	73	88	68	94	69	94	70	93	70
29....	95	70	90	75	88	67	.....	.....	95	69	92	70	95	72	90	73	91	71	93	73	89	71	93	71	94	70	93	72
30....	76	61	83	68	82	66	.....	.....	84	65	94	72	79	71	80	65	90	70	94	72	88	65	90	71	92	68	92	72
Mns..	90.8	66.4	87.9	71.8	86.1	65.5	89.2[1]	68.5[1]	90.6	67.2	92.3	70.0	89.8	70.3	88.5	70.4	91.6	69.9	92.3	72.0	89.7	68.1	92.0	68.8	92.1	67.4	92.3	70.5

Date.	Mississippi.						Louisiana.																			
	Kosciusko.§§		Natchez.§§		Vicksburg.		Alexandria.§§		Baton Rouge.§§		Covington.§§		Lafayette.§§		Lake Charles.§§		Monroe.§§		New Orleans.		Robeline.§§		Schriever.§§		Shreveport.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	89	60	90	64	88	70	94	62	92	66	92	71	92	69	94	63	90	64	89	75	90	56	93	72	89	66
2.....	92	62	90	71	88	70	90	71	91	67	91	72	94	73	90	69	94	67	84	74	89	64	93	70	88	74
3.....	88	65	87	70	87	70	90	71	90	66	91	70	86	70	88	69	91	68	89	72	93	69	93	69	88	72
4.....	86	67	90	69	88	70	90	72	91	66	91	71	90	71	89	69	90	71	86	75	88	69	93	71	90	72
5.....	92	69	91	72	88	74	93	72	90	66	93	73	91	74	95	70	93	73	90	72	96	72	91	71	93	74
6.....	95	70	94	73	89	74	94	72	92	65	91	71	85	73	92	70	95	74	86	75	98	73	95	71	92	74
7.....	96	70	94	70	91	72	95	73	92	66	94	71	91	72	94	71	96	73	88	75	96	70	94	70	92	74
8.....	95	71	91	70	92	74	95	71	94	66	95	72	90	72	92	68	96	72	90	76	96	70	93	71	93	73
9.....	96	69	94	71	91	72	95	71	92	66	93	73	91	73	95	70	92	72	89	77	95	69	96	72	95	74
10.....	94	71	94	72	92	73	93	72	94	65	93	72	92	73	89	70	96	74	91	77	96	70	98	71	92	74
11.....	94	70	93	73	91	76	95	72	95	66	93	72	93	74	98	69	96	75	92	77	97	70	97	72	94	75
12.....	98	71	96	73	95	77	97	73	96	65	97	73	94	74	100	70	97	75	90	78	99	71	95	73	96	78
13.....	99	72	96	74	94	75	97	74	97	66	96	73	95	76	99	72	98	74	94	77	98	73	98	73	95	77
14.....	99	72	93	75	93	76	95	75	96	65	97	71	94	76	96	71	98	75	93	78	98	72	98	73	95	77
15.....	94	66	92	72	91	73	95	74	94	67	91	72	90	76	95	69	95	74	87	77	97	71	93	74	95	75
16.....	94	70	92	73	92	74	95	73	95	72	93	74	93	75	95	71	96	75	93	77	98	71	97	73	94	74
17.....	95	70	93	73	91	74	97	73	94	68	94	71	92	73	96	70	95	75	93	77	98	70	96	71	95	76
18.....	97	69	95	74	92	76	95	73	92	68	95	71	93	71	95	76	97	74	92	77	97	70	96	69	95	74
19.....	95	71	94	71	91	73	95	71	90	71	95	71	91	73	96	68	97	73	89	75	96	68	93	74	94	72
20.....	94	68	92	69	90	71	95	70	88	69	91	71	90	72	99	67	96	73	88	75	97	68	91	71	92	70
21.....	93	68	89	69	88	71	93	70	93	68	94	69	90	72	93	69	92	72	91	75	93	69	93	68	87	73
22.....	93	66	93	69	90	71	91	70	94	69	95	70	92	72	94	67	95	70	92	77	94	68	97	71	88	72
23.....	95	64	90	69	90	71	93	70	95	71	93	70	89	74	93	68	96	68	88	74	92	68	96	72	92	69
24.....	90	65	89	67	90	69	93	67	89	67	91	69	88	69	94	66	95	73	86	73	92	64	95	72	90	68
25.....	92	66	90	69	89	71	90	70	91	69	90	69	87	71	92	64	97	68	88	74	93	66	90	70	90	70
26.....	95	68	91	69	92	72	93	69	90	70	93	70	89	71	91	68	98	71	86	75	95	65	90	69	92	72
27.....	97	67	94	70	93	74	95	70	92	69	95	70	91	71	95	68	97	72	89	76	97	63	92	69	93	72
28.....	95	67	91	69	90	73	94	71	91	71	91	70	90	72	92	69	96	73	90	77	96	68	90	71	92	73
29.....	96	67	93	70	90	72	93	71	94	71	90	71	90	73	93	70	96	72	90	76	95	68	95	71	90	72
30.....	95	69	92	71	91	75	93	71	93	72	94	71	90	72	92	69	97	74	93	76	92	68	94	70	90	72
Mns.....	94.1	68.0	92.1	70.7	91.3	72.8	93.8	71.1	92.9	67.8	93.1	71.1	90.8	72.1	93.9	69.0	95.2	72.1	89.5	75.6	95.0	68.4	94.2	71.1	92.0	73.0

[1], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
§ Data are from standard instruments not supplied by the United States Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1911.

DISTRICT No. 8, TEXAS AND THE RIO GRANDE VALLEY.

B. BUNNEMEYER, District Editor.

GENERAL SUMMARY.

The month of September was characterized by persistently warm and generally dry weather, and so far as Texas is concerned it was the warmest September in the last 24 years. The precipitation was decidedly deficient in the central and eastern portions of the district where it averaged but slightly more than half the normal amount, although some heavy rains occurred in a few scattered localities. In the western portion of the district, embracing the upper Rio Grande watershed, the monthly amounts exceeded the normal by nearly one-half inch, and there was much cloudy weather in that section, while in the remaining portions of the district the percentage of sunshine was abnormally high. The precipitation was generally well distributed throughout the month, showers occurring daily in some portion of the district. The number of days with 0.01 inch or more of precipitation averaged 10 in Colorado, 7 in New Mexico, and 4 in Texas. Flurries of snow occurred at Harveys Upper Ranch, N. Mex., on the 3d and 21st. There was a conspicuous absence of severe local storms during the month, and the weather generally was favorable for farming operations and especially for gathering the cotton crop, although more moisture was needed in many localities.

The greatest and least monthly amounts of precipitation in Colorado were 5.63 inches at Cumbres and 0.69 inch at Manassa; in New Mexico, 3.99 inches at Cloudcroft and 0.27 inch at Newman; and in Texas, 5.60 inches at Raymondville, while none occurred at Bridgeport and Fort McIntosh, and a trace only at three other stations. Excessive precipitation of 2.50 inches or more in 24 consecutive hours occurred at 10 stations in Texas, chiefly in the northern portions of the State, the heaviest being 4.21 inches at Long Lake.

TEMPERATURE.

The monthly mean temperature was 2.6° above the normal in Colorado, 1.9° above in New Mexico, and 5.1° above in Texas. The weather was uniformly warm during the month, and there were but few days on which the temperature was less than the normal. The excess of temperature was greatest in the middle portions of the district, where it varied from 6° to 9°. The diurnal range of temperature varied from about 8° on the upper Texas coast to about 34° in the extreme northwestern portion of the district.

The highest and lowest temperatures reported were: In Colorado, 86° at Saguache on the 1st, and 29° at Wagon Wheel Gap Experiment Station on the 7th; in New Mexico, 100° at Carlsbad on the 14th, 16th, and 17th, and 28° at Anchor Mine on the 16th; and in Texas, 106° at Barstow on the 6th, and 53° at Plainview on the 19th, and at Seymour on the 20th.

PRECIPITATION.

While the rainfall over the upper reaches of the Rio Grande watershed north of El Paso, Tex., averaged nearly one-half inch greater than normal, there was a marked deficiency of nearly 2 inches over the Texas stretch. The average for the entire drainage basin was 1.83 inches. The greatest monthly amount was 3.99 inches at Cloudcroft, N. Mex., and there was none at Fort McIntosh, Tex.

The rainfall over the Rio Pecos watershed was generally deficient, although in a few localities it was slightly greater than normal. The greatest monthly amount was 3.12 inches at Mountain View, Tex., and the least, 0.30 inch, at Demonstration Farm and at Taft, N. Mex. The average was 1.51 inches.

The Texas watersheds showed a decided and general deficiency of precipitation which varied from −0.98 inch for the Brazos drainage basin to −2.83 inches for that of the Nueces. In a few localities in the Colorado, Brazos, and Trinity watersheds and the coastal plains the monthly amounts were slightly above the normal. The greatest monthly amount was 5.60 inches at Raymondville in the coastal plains, while no precipitation occurred at Bridgeport in the Trinity Valley. The following are the average monthly amounts in inches for the various watersheds: Nueces, 0.49; San Antonio, 0.52; Guadalupe, 1.35; Lavaca, 2.32; Colorado, 1.86; Brazos, 1.75; Trinity, 1.83; Neches, 1.07; Sabine, 1.16; and coastal plains, 2.07. These amounts are considerably less than those reported for the preceding month, except in the case of the Lavaca watershed and of the coastal plains, which showed gains.

RIVER CONDITIONS.

There was but little water in the Rio Grande and Rio Pecos during the month, although the former stream had several moderate rises. At Elephant Butte, N. Mex., the water in the Rio Grande rose sufficiently high during the first part of the third decade to interfere with the work of the project at that place. The lower Rio Grande, although low, had ample water for irrigation and for stock.

Of the Texas streams the Guadalupe, Neches, and Sabine were at low-water mark during the entire month; in fact, the Guadalupe was lower than in any previous September since the records began in 1905. The Colo-

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rado, Brazos, and Trinity had good flows, and the stages recorded are the highest of record for September. Sharp rises occurred in these streams during the first decade, especially in the lower Colorado and upper Trinity. In the latter stream a stage of 25.4 feet was recorded at Dallas on the 6th, which is 0.4 foot above flood stage. Timely warnings were issued for this rise and no damage resulted. Most of the water in these streams resulted from heavy rains in the latter part of August.

MISCELLANEOUS.

Frosts.—Light to killing frosts were reported from some of the northern stations in New Mexico on several dates, the first killing frost occurring on the 3d at Harveys Upper Ranch, on the 9th at Red River Canyon, and on the 21st at Bluewater. So far this season there has been no frost in Texas.

Earthquakes.—On September 1, at 3.30 p. m., an earthquake shock was distinctly felt at Jemez Springs, N. Mex. It was accompanied by a slight rumble like distant thunder, lasting about 5 or 6 seconds. A few minutes later there was another rumble, but no appreciable quiver. On September 4, at 5.30 p. m., another and severer earthquake shock occurred at the same place. The rumble was slightly louder and 2 or 3 seconds after it began there came a quick, sharp tremble traveling in a direct line from south to north. Both shocks were sufficiently strong to rattle bottles and dishes on shelves, and the latter one caused even dizziness in some people.

TABLE 1.—*Climatological data for September, 1911. District No. 8, Texas and Rio Grande Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Colorado.																				
Blanca	Costilla	7,865	2																	Dr. L. C. Audrain.
Cumbres	Conejos	10,015	4								5.63		1.48	0	14	8	14	8	sw.	Mrs. Ida M. Lively.
Garnett	Costilla	7,576	18	57.2	+3.1	82	11†	31	8	48	1.56	+ 0.72	0.49	0	6	5	21	4	sw.	Chas. Speiser.
Hermit	Hinsdale	9,843	4																	Marion Mason.
Laveta Pass	Costilla	9,000	1								2.05		0.41	0	9	9	13	8	w.	Clara M. Wright.
Manassa	Conejos	7,700	5	57.4		82b	1	31b	7	47	0.69		0.48	0	4	10b	11b	7b	sw.	J. B. Chapman.
Platoro	do	9,675	4								3.50		1.03	0	18	14	6	10	sw.	Walter R. Hook.
Saguache	Saguache	7,740	19	59.4	+ 3.3	86	1	32	8	48	1.00	+ 0.36	0.35	0	4	8	4	18	w.	Eugene Williams.
San Luis	Costilla	7,794	20	57.0	+ 1.4	81	1	33	25	45	1.58	+ 0.46	0.42	0	6	15	7	8	sw.	P. B. Albright.
Wagon Wheel Gap Experiment Station.	Mineral	9,235	....	49.6		70	11	29	7	36	2.01		1.27	0	14	10	10	10	nw.	U. S. Weather Bureau.
New Mexico.																				
Agricultural College	Dona Ana	3,863	49	74.7	+ 1.7	95	24	50	21†	41	1.18	− 0.18	0.88	0	6	17	11	2	s.	N. Mex. Agricultural College.
Alamogordo (near)	Otero	4,338	10	74.0	+ 1.5	98	22	52	1	44	2.31	+ 1.03	1.03	0	9	8	20	2	sw.	Charles Sutton.
Alamogordo	do	4,320	2								2.00		0.92	0	4					Agent E. P. & S. W. R. R.
Alamos Ranch	Sandoval	7,800	1								1.50		0.39	0	9	22	1	7	sw.	Harold H. Brooks.
Albuquerque	Bernalillo	5,000	35								1.04	+ 0.19	0.52	0	7					Pitt Ross, C. E.
Ancho	Lincoln	6,112	2								0.94		0.42	0	4					Agent E. P. & S. W. R. R.
Anchor Mine	Taos	10,600	....			80	9†	28	16	....					6	17	12	1	e.	Charles H. Brigham.
Artesia	Eddy	3,350	4	74.2		98	15†	51	21	41	0.87		0.72	0	4	20	4	6	se.	Will Benson, C. E.
Aspen Grove Ranch	Rio Arriba	9,000	2								2.53		0.39	0	13	1	29	0		Junius D. Maupin.
Bateman's Ranch	do	8,900	2								2.13		0.90	0	5	13	15	2	w.	John W. Bateman.
Berino	Dona Ana	3,788	....								2.04		1.50	0	7	17	8	5	s.	C. A. Thompson.
Bluewater	Valencia	6,732	10	58.4	− 1.5	84	12	31	21	50	1.66	+ 0.23	0.60	0	9	8	22	0	w.	Bluewater Development Co.
Boaz	Chaves	4,154	2	73.6		94	5†	51	21	38	0.97		0.74	0	3	20	8	2	s.	D. C. Savage.
Capitan	Lincoln	6,348	2								2.75		0.69	0	8	0	25	5	se.	Agent E. P. & S. W. R. R.
Carlsbad	Eddy	3,120	16	77.7	+ 3.5	100	14†	55	21	39	1.16	− 0.14	0.62	0	3	19	8	3	se.	U. S. Reclamation Service.
Carrizozo	Lincoln	5,429	3	69.6		95	1	52	11†	36	1.90		1.31	0	4	20	6	4	sw.	Agent E. P. & S. W. R. R.
Chama	Rio Arriba	7,851	12	56.6	− 1.1	81	11	34	21†	40	3.46	+ 1.51	0.90	0	9	18	11	1	sw.	Frank C. Johnson.
Cloudcroft	Otero	8,650	9	57.8		85	24	37	20	41	3.99	+ 1.02	1.07	0	10	8	21	1		Agent E. P. & S. W. R. R.
Corona	Lincoln	6,666	2								1.00			0	5	0	23	7	sw.	Do.
Coyote	do	5,800	2								2.49		1.73	0	10	15	6	9	sw.	Do.
Cundiyo	Santa Fe	6,889	2								1.83		0.70	0	5	20	7	3	w.	Juan Vijil.
Demonstration Farm	San Miguel	6,800	2								0.30		0.30	0	1					Erb & Westerman.
Duran	Torrance	6,272	2								1.28		1.00	0	3	16	12	2		Agent E. P. & S. W. R. R.
Escondido	Otero	4,014	2								1.45		0.87	0	7	21	9	0	w.	Do.
Espanola	Rio Arriba	5,590	13	67.0	+ 1.8	90	12	40	21†	46	2.02	+ 0.75	0.60	0	7	15	11	4	sw.	Mrs. Ella F. McBride.
Estancia	Torrance	6,140	6	64.2		92	1†	37	29	47	0.55		0.18	0	4	16	11	3	e.	Agent N. Mex. Central R. R.
Fort Stanton	Lincoln	6,231	33	64.4	+ 2.9	87	24	40	21	41	1.50	− 0.46	0.44	0	11	16	7	7	w.	U. S. Sanitarium.
Fort Sumner	Guadalupe	3,960	3	72.8		95	13†	47	20	42	0.43		0.33	0	3	28	2	0	sw.	F. A. Manzanares.
Gallinas	Lincoln	6,635	2								1.94		1.18	0	6	15	5	10	w.	Agent E. P. & S. W. R. R.
Gallinas Planting Station.	San Miguel	7,500	4	60.8		84	11	38	19†	39	0.61		0.33	0	4	21	8	1	sw.	U. S. Forest Service.
Glorietta Ranch	Socorro	5,700	1								3.68		0.93	0	10	10	11	9	sw.	Charles M. Crossman.
Harvey's Upper Ranch	San Miguel	9,400	2								2.05		0.67	T.	12	16	13	1	se.	Simon B. Warner.
Hillsboro	Sierra	5,224	13	71.0	+ 2.6	92	3†	50	9†	42	2.60	+ 0.39	0.92	0	12	0	20	10	se.	Dr. Frank I. Givens.
Hondo Reservoir	Chaves	3,904	2	73.8		94	5†	51	21	40	2.93		1.80	0	5	22	5	3	s.	U. S. Reclamation Service.
Jemez Springs	Sandoval	6,100	1	63.8		83	10	42	21	31	2.10		0.40	0	10	13	9	8	sw.	Linus L. Shields.
Knowles (near)	Eddy	4,300	1	75.4		97	5†	50	19	37	2.06		1.39	0	5	21	6	3	se.	J. W. Mosley.
Laguna	Valencia	5,840	6	68.2		90	5	45	23	34	1.20		0.50	0	5					Gus Weiss.
Lagunita	Guadalupe	4,500	6																	P. A. Turnbull.
Lake Valley	Sierra	5,412	6								2.75		0.83	0	11	12	16	2	sw.	William P. Kiel.
Las Vegas	San Miguel	6,385	24	63.2	+ 2.4	85	11	40	21†	41	0.68	− 1.52	0.25	0	5	25	4	1	w.	N. Mex. Normal University
Liston	Chaves	5,000	1								1.09		0.50	0	4	13	14	3	sw.	H. G. Liston.
Los Lunas (near)	Valencia	4,900	21	68.4	+ 2.1	92	16	46	21	41	1.11	− 0.05	0.70	0	5	10	19	1		Richard Pohl.
Magdalena	Socorro	6,557	6	64.9		84	4†	46	21	34	2.35		0.65	0	14	12	17	1	sw.	William Pender.
Mescalero	Otero	6,627	....	62.8		81	12†	42	21	33	3.06		1.05	0	12	15	8	7	sw.	Rev. R. H. Harper.
Mineral Hill	San Miguel	7,050	6								1.00		1.00	0	1	19	3	8	w.	W. M. Nelson.
Monterey	Otero	4,436	2			92	13	58	21	....	2.39		1.05	0	8	15	10	5		Agent E. P. & S. W. R. R.
Mountainair	Torrance	6,547	10	65.5	+ 2.9	89	2	38	20	42	3.28	+ 1.55	1.65	0	15	3	26	1	sw.	Mrs. John W. Corbett.
Newman	Otero	3,989	2								0.27		0.27	0	1	24	5	1	w.	Agent E. P. & S. W. R. R.
Noria	Dona Ana	4,114	2								1.42		0.58	0	4	11	5	14	w.	Do.
Orogrande	Otero	4,171	2								1.10		0.85	0	3	14	16	0		Do.
Oscura	Lincoln	5,016	2			92	14	55	22	....	2.62		1.06	0	9	23	3	4	se.	Eugene F. Jones.
Otis	Eddy	3,100	2								1.79		0.83	0	7	23	6	1	se.	A. M. Hove.
Otto	Santa Fe	6,200	2								1.79		0.57	0	8					O. H. Johnson.
Pastura	Guadalupe	5,285	2			94	7	53	21	....	2.43		1.63	0	8	14	12	4	s.	Agent E. P. & S. W. R. R.
Placitas (near)	Bernalillo	8,000	1	60.0		80	11	39	21	31	2.18		0.46	0	9	17	13	0	w.	George C. Ellis.
Plainview	Chaves	4,300	....																	L. P. Adair.
Red River Canyon	Taos	8,956	3	53.6		80	11	30	20	46	1.90		0.60	0	5	20	9	1	e.	Mrs. L. R Penn.
Rincon	Dona Ana	4,030	13	75.0	+ 3.0	95	16	55	22†	37	0.82	− 1.31	0.32	0	3	6	13	11	s.	C. H. Raitt.
Rio Grande Dam	Sierra	4,265	13																	U. S. Reclamation Service.
Rio Grande Industrial School.	Bernalillo	5,000	....	69.7		95	9	43	21	41	1.65		0.45	0	7	10	19	1	s.	Rev. A. C. Heyman.
Rosedale	Socorro	6,911	6	63.4		79	16	46	20	27	3.14		0.98	0	13	10	19	1	w.	Mrs. J. J. MacInness.
Roswell	Chaves	3,578	13	73.6	+ 3.3	95	16	51	21	40	1.71	− 0.58	0.86	0	5	14	12	4	s.	U. S. Weather Bureau.
San Marcial	Socorro	4,439	14	74.5	+ 4.4	93	16	55	21	35	1.86	+ 0.13	1.79	0	4	11	12	7	ne.	Agent A., T. & S. F. R. R.
San Rafael	Valencia	6,509	7	65.8		93	4†	40	21†	48	1.79		0.53	0	10	13	7	10	se.	Dr. Charles M. Grover.
Santa Fe	Santa Fe	7,013	38	62.8	+ 2.2	80	1	43	21	29	1.17	− 0.47	0.44	0	8	12	16	2	sw.	Section Center.
Santa Fe Canyon	do	8,000	1								1.59		0.90	0	11	11	5	14	e.	Candelario Martinez.
Santa Rosa	Guadalupe	4,624	11	72.8		98	11	50	22	41	1.41	+ 0.08	0.67	0	7	12	18	0	w.	John L. Chapman.
Socorro	Socorro	4,600	19	68.9	− 0.4	92	5	47	1	43	2.49	+ 0.58	0.70	0	10	27	3	0	se.	J. J. Leeson.
South Fork	Taos	8,405	....								3.43		1.40		10	14	8	8	s.	Frank Hamm, jr.
Stanley	Santa Fe	6,317	2																	Henry Winan.
Strauss	Dona Ana	4,080	12								1.36	− 0.04	0.88	0	4	16	10	4	w.	Agent So. Pac. Ry.
Taft	Guadalupe	5,000	1								0.30		0.30	0	1	13	13	4	s.	J. F. Nappier.
Tajique (near)	Torrance	6,900	1								1.53		0.59	0	7	13	17	0		U. S. Forest Service.
Taos	Taos	6,983	13	62.1	+ 0.8	85	1†	39	21†	43	2.40	+ 1.14	1.20	0	7	16	14	0	w.	Alexander Gusdorf.
Taos Canyon	do	8,959	2								3.38		1.26	0	11					L. Martinez, jr.
Tecolote	Lincoln	6,539	2								2.49		1.84	0	9	8	9	13	w.	Agent E. P. & S. W. R. R.
Three Rivers	Otero	4,559	2								2.62		1.17	0	7	9	11	10		Do.
Tijeras Canyon	Bernalillo	6,214	1								1.36		0.39	0	7	16	13	1	sw.	U. S. Forest Service.
Torrance	Torrance	6,433	2								1.99		1.25	0	7	10	16	4	sw.	Agent E. P. & S. W. R. R.
Tres Piedras	Taos	8,076	6																	U. S. Forest Service.

TABLE 1.—*Climatological data for September, 1911. District No. 8*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
New Mexico—Con.																				
Truchas	Rio Arriba	7,935	2	59.1	.....	78	11	41	20	29	2.46	.....	0.80	0	12	7	16	7	w.	Miss Ruth Rendon.
Tularosa	Otero	4,436	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Irby L. Fairless.
Vaughn	Guadalupe	5,952	2	.....	.....	.....	.....	.....	.....	.....	2.38	.....	1.15	0	5	11	12	7	.....	Agent E. P. & S. W. R. R.
Virsylvia	Taos	7,500	1	62.6	.....	83	12	38	24	38	1.26	.....	0.52	0	10	21	4	5	s.	Dr. I. N. Woodman.
Winsors	San Miguel	8,200	13	55.0	+ 3.3	79	16	32	18	41	1.77	− 0.28	0.81	0	8	9	13	8	w.	Henry D. Winsor.
Texas.																				
Abilene	Taylor	1,738	26	81.0	+ 6.8	95	17	61	19	29	1.38	− 1.76	1.15	0	2	24	4	2	s.	U. S. Weather Bureau.
Albany	Shackelford	1,429	17	80.0	+ 4.5	99	18	59	20	35	2.53	− 0.16	2.20	0	2	27	2	1	se.	N. L. Bartholomew.
Alice	Jim Wells	209	....	85.7	.....	103	5	70	1†	30	0.64	.....	0.32	0	7	13	14	3	se.	R. M. Boerum.
Alpine	Brewster	4,482	1	.....	.....	.....	.....	.....	.....	.....	1.56	.....	0.56	0	4[a]	22[a]	6[a]	1[a]	sw.	J. Frank Dobie.
Alvin	Brazoria	49	13	81.6	.....	95	12	69	1†	24	3.08	− 0.68	1.41	0	11	7	13	10	se.	Alvin Japanese Nursery.
Anahuac	Chambers	23	2	.....	.....	.....	.....	.....	.....	.....	3.57	.....	0.88	0	12	.....	.....	.....	.....	B. H. Collins.
Antelope	Jack	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.60	.....	2.05	0	2	25	5	0	.....	Chas. C. Hawkins.
Aspermont	Stonewall	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.07	.....	1.02	0	4	21	7	2	se.	Bryant Link Co.
Austin	Travis	593	55	84.2	+ 6.1	97	12	69	1†	23	0.44	− 3.30	0.38	0	3	19	10	1	se.	A. Deussen.
Ballinger	Runnels	1,637	15	80.8	+ 5.1	98	14†	63	3†	32	3.70	+ 0.56	2.80	0	3	25	3	2	s.	E. M. Eubank.
Barstow	Ward	2,573	4	82.4	.....	106	6	60	2	42	1.32	.....	0.67	0	3	17	8	5	e.	Lee F. Freeman.
Bay City	Matagorda	53	1	.....	.....	.....	.....	.....	.....	.....	3.04	.....	0.60	0	8	13	4	13	s.	E. C. Quereau.
Beaumont	Jefferson	29	10	82.8	+ 2.1	97	18	69	1†	24	2.79	− 0.14	0.89	0	8	11	0	19	se.	John Bender.
Beeville	Bee	225	15	85.6	+ 4.9	103	21	70	20	32	0.48	− 2.30	0.36	0	2	5	15	10	se.	L. E. Dickey.
Big Spring	Howard	2,396	13	83.0	.....	103	18	59	19	36	1.79	− 0.68	1.78	0	2	16	13	1	s.	B. Reagan.
Blanco	Blanco	1,350	15	83.8	+ 7.1	101	13	63	1	31	1.04	− 2.09	0.44	0	4	17	12	1	s.	R. C. Crist.
Boerne	Kendall	1,412	19	83.1	+ 7.1	101	15	62	17†	38	0.40	− 2.54	0.37	0	2	15	14	1	se.	F. W. Schweppe.
Booth	Fort Bend	81	10	.....	.....	.....	.....	.....	.....	.....	5.42	+ 2.40	1.44	0	14	26	0	4	e.	T. R. Booth.
Bowie	Montague	1,113	16	82.3	+ 4.2	100	12	62	19	31	2.22	− 0.70	1.40	0	3	20	8	2	s.	Craig Anderson.
Brady	McCullough	1,500	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. W. Virling, jr.
Brazoria	Brazoria	25	22	82.2	+ 4.3	97	19	69	20	27	3.62	− 1.94	0.77	0	15	23	5	2	s.	Mrs. M. A. Stevens.
Brazos	Palo Pinto	801	2	.....	.....	.....	.....	.....	.....	.....	3.04	.....	2.93	0	2	25	3	2	s.	Robt. E. Boyett.
Brenham	Washington	350	26	84.4	+ 5.4	101	15†	67	1	26	0.22	− 2.98	0.15	0	3	19	5	6	se.	Mrs. B. F. Sloan.
Bridgeport	Wise	754	2	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	0	0	24	3	3	s.	Claude Strange.
Brighton	Nueces	12	18	86.6	+ 6.0	98	9	73	1†	23	1.20	− 1.82	1.05	0	3	29	1	0	se.	G. H. Ritter.
Brownsville	Cameron	38	47	83.4	+ 3.1	97	23	71	2†	25	2.75	− 2.87	0.80	0	10	17	13	0	se.	U. S. Weather Bureau.
Brownwood	Brown	1,342	19	81.6	+ 4.8	99	11†	61	1†	36	3.65	+ 0.87	2.65	0	3	24	4	2	s.	Mrs. Pearl Smith.
Cameron	Milam	.....	3	85.6	.....	103	11	68	22	30	0.64	.....	0.40	0	2	26	4	0	s.	J. E. Watts.
Carmena	Polk	330	3	81.4	.....	99	17	59	1	33[a]	1.44	.....	0.58	0	8	19[a]	9[a]	1[a]	s.	M. S. Spitler.
Claytonville	Fisher	2,100	16	80.4	+ 4.6	98	19	58	17	29	1.82	− 0.73	1.82	0	1	22	6	2	se.	Wm. Lanius.
Clifton	Bosque	671	.....	.....	.....	.....	.....	.....	.....	.....	3.90	.....	2.00	0	3	13	17	0	s.	R. M. Jones.
Coleman	Coleman	1,710	17	79.6	+ 5.0	97	29	62	4	33	2.20	− 1.41	1.53	0	3	12	17	1	s.	J. E. Stevens.
College Station	Brazos	308	21	84.4	+ 5.4	101	12†	65	1	30	1.61	− 1.71	0.75	0	8	1	27	2	s.	Prof. G. S. Fraps.
Colorado	Mitchell	2,066	17	81.4	+ 6.3	97	12†	57	19	29	2.12	− 0.25	1.20	0	2	24	1	5	s.	R. M. Webb.
Columbia	Brazoria	34	22	81.2	+ 3.5	98	5	65	1	29	2.85	− 2.45	0.75	0	6	11	19	0	s.	R. B. Loggins.
Columbus	Colorado	206	7	.....	.....	.....	.....	.....	.....	.....	1.76	.....	0.80	0	4	18	12	0	ne.	Mrs. Sophie Bridge.
Corpus Christi	Nueces	20	24	83.0	+ 4.0	92	5	72	2	14	1.77	− 2.23	0.66	0	9	18	12	0	se.	U. S. Weather Bureau.
Corsicana	Navarro	445	22	83.2	+ 5.9	100	12†	63	1	31	1.61	− 1.18	0.85	0	3	23	5	2	s.	D. H. Winn.
Cotulla	La Salle	425	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Holland Agricultural Co.
Crockett	Houston	350	7	85.0	.....	102	15	64	1	31	0.71	.....	0.30	0	4	20	10	0	s.	A. M. Rencher.
Cuero	De Witt	177	21	86.2	+ 6.5	102	12†	70	1†	32	0.21	− 3.74	0.12	0	3	23	4	3	s.	H. R. Frobese.
Dallas	Dallas	466	22	83.6	+ 6.2	102	11†	62	1†	34	2.21	− 0.61	1.21	0	4	24	0	6	s.	G. A. Eisenlohr.
Danevang	Wharton	145	15	83.5	+ 4.4	99	18†	67	1	29	4.21	+ 0.36	1.36	0	8	19	8	3	se.	H. P. Hermansen.
Decatur	Wise	1,047	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fort Worth & Denver City Ry.
Del Rio	Valverde	952	5	86.7	+ 7.8	103	5	72	26	28	0.36	− 2.58	0.36	0	1	21	9	0	se.	U. S. Weather Bureau.
Devine	Medina	653	1	87.6	.....	102	22†	70	1	28	0.12	.....	0.12	0	1	27	3	0	se.	M. A. Keller.
Dialville	Cherokee	575	7	83.4	.....	99	13†	64	1	29	0.37	.....	0.20	0	3	16	14	0	s.	J. M. B. McKnight.
Dilley	Frio	569	1	.....	.....	.....	.....	.....	.....	.....	1.80	.....	1.80	0	1	.....	.....	.....	.....	John W. Miller.
Dublin	Erath	1,466	15	82.6	+ 6.0	102	12	63	1	34	2.48	− 0.04	1.90	0	5	21	6	3	s.	Jno. O. Shafer.
Duval	Travis	820	22	83.8	+ 4.3	98	5†	68	1†	26	0.62	− 1.83	0.57	0	2	24	1	5	se.	J. C. Edgar.
Eagle Pass	Maverick	800	34	86.8	+ 5.1	101	14	72	1†	25	0.03	− 2.28	0.03	0	1	17	13	0	se.	Charles Tarver.
Eastland	Eastland	1,420	4	79.6	.....	99	23	60	3†	34	2.75	.....	2.25	0	2	23	6	1	.....	J. R. Gilbreath.
Edna	Jackson	71	2	.....	.....	.....	.....	.....	.....	.....	3.18	.....	1.10	0	6	.....	.....	.....	.....	E. L. Faires.
El Paso	El Paso	3,762	32	77.5	+ 4.8	94	16	61	21	27	1.00	− 0.45	0.49	0	7	15	14	1	e.	U. S. Weather Bureau.
Encinal	La Salle	558	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. C. Braden.
Eols	Concho	.....	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	0	0	.....	.....	.....	.....	E. W. Neal.
Fairland	Burnet	1,000	22	85.1	+ 8.1	104	12†	62	1	35	0.22	− 2.32	0.14	0	4	27	2	1	s.	R. L. Bush.
Falfurrias	Starr	.....	3	85.2	.....	103	5†	67	20	34	1.11	.....	0.59	0	5	14	16	0	se.	W. A. Gardner.
Flatonia	Fayette	465	3	84.2	.....	100	11†	66	1	29	1.19	.....	0.58	0	7	15	10	5	s.	Fred W. Laux.
Flint	Smith	483	1	83.6	.....	101	11	61	1	29	0.45	.....	0.30	0	3	21	8	1	sw.	F. C. C. Carter.
Floydada	Floyd	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. H. Schmidt.
Fort Clark	Kinney	1,050	40	85.6	+ 7.1	99	4†	70	14	28	0.02	− 3.10	0.02	0	1	25	5	0	se.	Post Hospital.
Fort McIntosh	Webb	460	43	86.4	+ 4.3	104	5†	65	25	32	0.00	− 2.75	0.00	0	0	12	10	8	e.	Do.
Fort Stockton	Pecos	3,050	14	80.6	+ 9.7	102	14†	60	3†	37	1.05	− 1.96	1.00	0	2	0	30	0	s.	H. H. Butz.
Fort Worth	Tarrant	670	16	82.3	+ 5.6	98	12	66	19	27	1.38	− 1.57	1.24	0	4	22	6	2	s.	U. S. Weather Bureau.
Fredericksburg	Gillespie	1,742	22	82.2	+ 6.4	96	6†	63	1	29	0.52	− 2.50	0.45	0	2	22	7	1	s.	Arthur Striegler.
Gainesville	Cooke	738	21	83.2	+ 6.2	100	12	63	1†	31	1.67	− 1.57	1.30	0	3	.....	.....	.....	.....	J. L. Hickson.
Galveston	Galveston	69	40	83.6	+ 4.2	90	19	72	24	14	3.50	− 1.91	2.06	0	10	13	15	2	se.	U. S. Weather Bureau.
Gatesville	Coryell	795	7	80.8	.....	101	12	60	3	35[c]	1.05	.....	0.60	0	3	21[c]	6[c]	0[c]	.....	John Ryan.
Georgetown	Williamson	750	16	83.4	+ 5.2	100	11†	63	1†	32	0.70	− 2.50	0.67	0	2	23	6	1	se.	Prof. R. F. Young.
Gonzales	Gonzales	299	6	.....	.....	.....	.....	.....	.....	.....	1.65	.....	0.67	0	5	21	6	3	s.	J. M. Johnson.
Gorham	McLennan	444	2	.....	.....	.....	.....	.....	.....	.....	0.45	.....	0.45	0	1	27	1	2	s.	John Gorham.
Graham	Young	1,040	12	81.5	+ 6.5	101	18	60	1	34	3.12	+ 0.34	2.60	0	3	26	2	2	s.	C. W. Johnson.
Grand Falls	Pecos	.....	1	.....	.....	.....	.....	.....	.....	.....	1.90	.....	1.20	0	3	8	21	1	.....	W. A. White.
Grand Saline	Van Zandt	399	1	.....	.....	.....	.....	.....	.....	.....	1.32	.....	0.78	0	4	21	7	2	s.	F. E. Whittemore.
Grapevine	Tarrant	670	21	83.9	+ 5.6	102	12	64	1	31	0.81	− 1.64	0.81	0	2	7[b]	18[b]	3[b]	s.	W. J. Crowley.
Greenville	Hunt	550	11	86.0	+ 7.2	104	12	64	1†	34	1.90	− 1.51	1.90	0	1	25	0	5	s.	J. P. Regan.
Hallettsville	Lavaca	235	19	85.0	+ 5.3	100	13	68	1	27	1.46	− 1.13	0.47	0	4	20	6	4	s.	Dr. J. E. Lay.
Hamlin	Jones	1,685	.....	.....	.....	.....	.....	.....	.....	.....	1.62	.....	1.33	0	2	.....	.....	.....	.....	W. S. Carruthers.
Harlingen	Cameron	37	.....	.....	.....	.....	.....	.....	.....	.....	1.70	.....	0.93	0	7	21	8	1	se.	Dr. C. W. Letzerich.
Harper	Gillespie	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.90	.....	0.55	0	3	18	0	12	.....	Christian Fritz.
Haskell	Haskell	1,553	16	81.3	+ 3.7	100	2	59	20	35	2.84	− 0.60	1.60	0	3	19	10	1	s.	P. D. Sanders.
Hebbronville	Duval	.....	4	.....	.....	.....	.....	.....	.....	.....	0.21	.....	0.21	0	1	.....	.....	.....	.....	Henry Edds.
Hempstead	Waller	254	7	.....	.....	.....	.....	.....	.....	.....	0.85	.....	0.70	0	2	12	16	2	s.	J. H. Hancock.
Henderson	Rusk	500	2	.....	.....	.....	.....	.....	.....	.....	0.79	.....	0.55	0	2	22	6	2	.....	M. Kangerga.
Hewitt	McLennan	664	16	.....	.....	.....	.....	.....	.....	.....	1.98	− 0.47	1.39	0	4	.....	.....	.....	.....	I. H. Earle.
Hico	Hamilton	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.41	.....	1.36	0	3	27	2	1	s.	John A. Eakins.

TABLE 1.—*Climatological data for September, 1911. District No. 8*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Texas*—Continued.**																				
Hillsboro	Hill	628	8	85.8	.....	103	13	67	1†	33	2.19	.....	1.90	0	2	.....	.....	.....	.....	W. G. Escott.
Hondo	Medina	901	12	85.4	.....	99	1†	68	1†	31	0.54	− 2.83	0.42	0	2	22	8	0	se.	H. E. Haass.
Houston	Harris	138	21	82.6	+ 4.1	96	12	68	22	23	3.14	− 1.35	1.49	0	13	11	16	3	se.	U. S. Weather Bureau.
Huntsville	Walker	400	27	82.4	+ 4.8	98	9	62	1†	30	3.83	+ 0.94	1.72	0	4	26	0	4	se.	W. Y. Barr.
Jayton	Kent	.....	1	.....	.....	.....	.....	.....	.....	.....	0.69	.....	0.60	0	1	24	1	5	e.	Wichita Valley Railway Co.
Jewett	Leon	496	7	85.2	.....	103	8†	65	1†	37	0.10	.....	0.10	0	1	22	5	3	s.	Earle Adkisson.
Junction	Kimble	1,645	8	80.9	.....	98	6†	60	1	34	1.40	− 1.10	1.20	0	2	24	5	1	s.	Judge John S. Durst.
Kaufman	Kaufman	448	12	84.8	+ 5.8	101	11†	66	1	26	0.94	.....	0.45	0	3	21	8	1	s.	B. J. Hubbard.
Kerrville	Kerr	1,650	15	82.4	+ 6.8	99	6	59	1	34	0.43	− 2.44	0.25	0	3	14	8	8	s.	Robert E. Horne.
Knickerbocker	Tom Green	2,050	7	81.2	.....	100	17†	61	1	34	1.92	.....	0.90	0	4	26	2	2	se.	Jos. Tweedy.
Kopperl	Bosque	576	14	.....	.....	.....	.....	.....	.....	.....	2.30	− 0.49	1.90	0	2	22	5	3	s.	T. A. Johnson.
Lagrange	Fayette	276	1	.....	.....	.....	.....	.....	.....	.....	1.86	.....	1.09	0	8	20	5	5	se.	August Hermes.
Lamesa	Dawson	2,500	1	.....	.....	.....	.....	.....	.....	.....	2.26	.....	2.10	0	2	.....	.....	.....	.....	S. D. Austin.
Lampasas	Lampasas	1,026	19	83.0	+ 6.2	100	11†	60	1†	36	1.34	− 1.21	0.71	0	3	25	1	4	s.	Mrs. K. I. Webber.
La Parra	Cameron	38	9	.....	.....	.....	.....	.....	.....	.....	0.80	− 2.78	0.40	0	2	.....	.....	.....	.....	Jno. G. Kenedy.
Laureles Ranch	Nueces	20	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Matt Cody.
Liberty	Liberty	38	7	81.8	.....	99	11	66	1	30	1.68	.....	0.45	0	6	24	5	1	n.	Mrs. Fannie Sneed.
Llano	Llano	1,040	20	85.0	+ 6.0	100	6†	65	1	29	0.92	− 1.06	0.32	0	4	24	6	0	se.	E. W. Torrence.
Llano Grande	Hidalgo	86	3	83.4	.....	101	6	62	1	36	0.35	.....	0.35	0	1	19	8	3	se.	M. D. Wardlow.
Long Lake	Anderson	229	6	.....	.....	.....	.....	.....	.....	.....	4.62	.....	4.21	0	4	15	12	3	s.	Geo. W. Ellis.
Longview	Gregg	336	25	83.6	+ 5.9	99	16†	61	1	29	0.55	− 2.34	0.27	0	4	24	4	2	se.	C. A. Propst.
Lubbock	Lubbock	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.33	.....	0.56	0	7	18	10	2	s.	A. L. Paschall.
Lufkin	Angelina	325	4	82.7	.....	99	12	63	1	30	0.99	.....	0.71	0	4	24	6	0	s.	T. A. King.
Luling	Caldwell	418	22	84.8	+ 5.6	98	5†	69	1	24	0.58	− 2.34	0.35	0	6	14	15	1	s.	John Carter.
McGregor	McLennan	713	1	.....	.....	.....	.....	.....	.....	.....	1.08	.....	1.00	0	2	21	7	2	s.	W. H. Whitley.
Marathon	Brewster	4,043	1	72.4	.....	92	18	57	4†	33	0.30	.....	0.19	0	4	8	16	6	s.	Rev. A. P. Willis.
Marble Falls	Burnet	771	3	.....	.....	.....	.....	.....	.....	.....	T.	.....	T.	0	0	16	3	11	s.	R. H. Cochran.
Marfa	Presidio	.....	3	.....	.....	.....	.....	.....	.....	.....	0.60	.....	0.30	0	3	.....	.....	.....	.....	R. K. Colquitt.
Marshall	Harrison	375	2	82.0	.....	98	18	64	1	29	0.61	.....	0.31	0	2	0	30	0	se.	Lee Scott.
Matagorda	Matagorda	12	1	.....	.....	.....	.....	.....	.....	.....	3.03	.....	1.00	0	4	26	4	0	s.	W. E. McNabb.
Mexia	Limestone	537	7	83.7	.....	103	12	60	1	35	0.04	.....	0.04	0	1	14	9	7	s.	Miss Josephine Newman.
Midland	Midland	.....	4	81.8	.....	105	17	60	3†	35	0.75	.....	0.65	0	3	1	27	2	s.	W. M. Midkiff.
Mission	Hidalgo	140	1	84.4	.....	99	8	71	19†	26	1.34	.....	0.85	0	6	0	30	0	se.	Glenn Perryman.
Mont Belvieu	Chambers	65	1	.....	.....	.....	.....	.....	.....	.....	3.12	.....	1.18	0	6	0	24	6	se.	A. R. Shearer.
Mountain View	Pecos	2,900	1	.....	.....	.....	.....	.....	.....	.....	0.35	.....	0.30	0	2	.....	.....	.....	.....	Lucius W. Gosselin.
Mount Blanco	Crosby	2,750	22	77.7	+ 5.7	99	17	54	21	36	1.93	− 0.20	0.83	0	7	11	11	8	se.	H. C. Smith.
Nacogdoches	Nacogdoches	271	12	82.0	+ 5.7	102	12†	59	1	29	0.53	− 2.83	0.53	0	1	0ª	19ª	10ª	nw.	Miss Mary Hofmann.
New Braunfels	Comal	720	22	82.6	+ 4.8	96	5†	66	1	25	1.00	− 1.80	0.45	0	3	18	12	0	se.	J. Giesecke.
Palestine	Anderson	510	29	82.4	+ 7.7	96	12	65	1	24	0.59	− 2.61	0.40	0	2	17	12	1	s.	U. S. Weather Bureau.
Panter	Hood	1,000	22	.....	.....	.....	.....	.....	.....	.....	1.97	− 0.59	1.48	0	4	.....	.....	.....	.....	E. H. Snider.
Pearsall	Frio	629	1	.....	.....	.....	.....	.....	.....	.....	0.09	.....	0.05	0	2	.....	.....	.....	.....	Earnest De Vilbiss.
Pierce	Wharton	102	5	80.7	.....	98	20†	61	1	35	4.83	.....	2.04	0	6	12	12	6	.....	R. B. Pointer.
Plainview	Hale	3,370	15	74.8	+ 3.8	99	5†	53	19	39	2.40	+ 0.12	0.95	0	5	19	8	3	s.	J. F. Sanders.
Port Arthur	Jefferson	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.85	.....	1.85	0	2	.....	.....	.....	.....	Griffing Brothers Co.
Port Lavaca	Calhoun	20	10	85.2	+ 4.9	98	3†	71	20†	27	0.64	− 3.44	0.42	0	3	24	6	0	s.	J. H. Bickford.
Post City	Garza	2,700	1	.....	.....	.....	.....	.....	.....	.....	1.27	.....	0.83	0	2	27	1	2	sw.	W. L. Dodd.
Putnam	Callahan	1,591	.....	.....	.....	.....	.....	.....	.....	.....	2.02	.....	1.76	0	3	23	6	1	s.	Rev. Joseph Reisdorff.
Raymondville	Cameron	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.60	.....	1.40	0	14	11	17	2	se.	C. H. Pease.
Ricardo	Nueces	57	2	83.1	.....	98	6†	69	20	28	1.99	.....	1.05	0	8	9	17	4	se.	Lindsay Waters.
Riverside	Walker	169	7	.....	.....	.....	.....	.....	.....	.....	2.75	.....	1.00	0	4	24	0	6	s.	Mrs. C. W. Higdon.
Robert Lee	Coke	1,850	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. D. Pearce.
Rockland	Tyler	136	7	.....	.....	.....	.....	.....	.....	.....	1.00	− 5.07	0.90	0	3	10	9	11	s.	T. W. Bellamy.
Rockport**	Aransas	12	10	82.4	.....	90	4†	70	27†	14	1.22	.....	0.50	0	4	28	0	2	se.	Mrs. G. B. Grewe.
Rossville	Atascosa	558	4	85.0	.....	99	7†	68	1	25	0.35	.....	0.25	0	4	14	16	0	se.	W. F. M. Ross.
Runge	Karnes	308	16	.....	.....	.....	.....	.....	.....	.....	1.38	.....	0.44	0	4	.....	.....	.....	.....	Reiffert & Frobese.
Sabinal	Uvalde	964	7	84.6	.....	99	14	68	1	28	0.04	.....	0.02	0	2	6	15	9	se.	Jas. Johnston.
Salado	Bell	.....	1	.....	.....	.....	.....	.....	.....	.....	0.16	.....	0.16	0	1	22	0	8	s.	L. M. Crockett.
San Angelo	Tom Green	1,847	20	80.0	+ 5.3	100	1	61	2	35	2.15	− 0.56	1.25	0	3	21	6	3	s.	Sam Crowther.
San Antonio	Bexar	701	26	84.6	+ 7.5	97	5	68	1	26	0.12	− 2.82	0.11	0	2	16	12	2	se.	U. S. Weather Bureau.
San Augustine	San Augustine	360	2	82.3	.....	98	12†	66	24†	30	1.24	.....	0.73	0	4	17	6	7	.....	F. A. Wilson.
San Juanito	Hidalgo	.....	2	.....	.....	103	8†	.....	.....	.....	0.51	.....	0.32	0	4	4	7	19	se.	J. B. McAllen.
San Marcos	Hays	588	18	84.6	+ 6.0	96	7†	64	1	28	0.14	− 2.46	0.14	0	1	22	0	8	s.	Miss L. C. Ford.
San Saba	San Saba	1,712	10	83.8	+ 7.0	99	12†	60	1	34	2.77	+ 0.08	1.83	0	4	26	0	4	s.	Jas. Burns.
Santa Gertrudes	Nueces	.....	11	.....	.....	.....	.....	.....	.....	.....	0.55	− 2.15	0.33	0	3	.....	.....	.....	.....	J. B. Wright, jr.
Sealy	Austin	201	.....	.....	.....	.....	.....	.....	.....	.....	1.09	.....	0.79	0	5	12	10	8	s.	O. H. Albert.
Seymour	Baylor	1,320	5	79.2	.....	102	18	53	20	41	3.91	.....	1.85	0	4	22	0	8	.....	S. C. Lee.
Snyder	Scurry	.....	.....	79.4	.....	101	17	57	19	33	2.91	.....	2.78	0	3	21	7	2	s.	J. Allen Weaver.
Somerville	Burleson	251	2	84.4	.....	100	5†	62	1	33	T.	.....	T.	0	0	26	2	2	s.	W. A. Dolan.
Spur	Dickens	2,300	.....	79.1	.....	100	17	58	19	31	1.34	.....	0.88	0	4	24	5	1	s.	J. D. Reagan.
Stamford	Jones	.....	.....	79.8	.....	98	10†	58	19	32	3.03	.....	2.60	0	4	23	7	0	.....	T. A. Williams.
Stowell	Chambers	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.75	.....	2.02	0	7	18	0	12	s.	Arthur Bailey.
Sutherland Springs**	Wilson	424	1	87.3	.....	102	10†	62	1	36	0.16	.....	0.08	0	3	18	11	1	s.	W. A. Clark.
Taylor	Williamson	583	10	83.1	+ 6.2	97	12	65	1	26	0.20	− 2.84	0.08	0	4	21	8	1	s.	U. S. Weather Bureau.
Temple	Bell	630	21	83.6	+ 5.8	98	6†	68	1	25	0.46	− 2.16	0.27	0	3	23	3	4	.....	W. Goodrich Jones.
Theodore	Winkler	.....	1	.....	.....	.....	.....	.....	.....	.....	0.65	.....	0.65	0	1	.....	.....	.....	.....	W. H. Gibbs.
Thurber	Erath	.....	1	.....	.....	.....	.....	.....	.....	.....	2.85	.....	2.75	0	2	.....	.....	.....	.....	J. K. Ball.
Tilden	McMullen	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm. Kuykendall.
Tivoli	Refugio	.....	1	.....	.....	.....	.....	.....	.....	.....	2.92	.....	0.96	0	7	0	30	0	.....	W. H. Gisler.
Uvalde	Uvalde	937	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Getzendaner.
Valentine	Jeff Davis	4,421	5	74.0	.....	94	15	55	1	34	3.21	.....	0.90	0	10	17	11	2	se.	Valentine Development Co.
Valley Junction	Robertson	289	11	.....	.....	.....	.....	.....	.....	.....	1.47	− 1.43	0.57	0	4	19	0	11	s.	T. M. Williams.
Victoria	Victoria	187	12	86.2	+ 5.9	103	5†	71	1†	31	4.34	+ 1.28	2.00	0	5	21	4	5	s.	C. C. Zirjacks.
Waco	McLennan	424	22	85.4	+ 6.6	101	12	66	1	28	1.32	− 1.27	0.70	0	2	24	0	6	s.	E. H. Hall.
Waxahachie	Ellis	556	14	83.9	+ 6.2	103	12	60	1†	37	0.33	− 2.67	0.33	0	1	23	1	6	s.	C. D. Longserre.
Weatherford	Parker	864	22	81.6	+ 5.2	96	12	62	1	27	2.96	+ 0.52	2.93	0	2	25	2	3	n.	Miss J. Stickfort.
Wharton	Wharton	105	9	82.9	.....	102	22	61	1†	37	4.13	.....	3.20	0	9	6	7	17	n.	Mrs. F. M. Hughs.
Wills Point	Van Zandt	524	6	84.5	.....	105	12	63	1	33	1.90	.....	1.05	0	3	22	2	6	s.	W. W. Gibbard.
Winters	Runnels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.80	.....	1.30	0	2	.....	.....	.....	.....	Ed. P. Eason.

ª, ᵇ, ᶜ, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1911. District No. 8, Texas and Rio Grande Valley.*

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Colorado.																																
Blanca	Rio Grande																															
Cumbres	do	.09		.09	.02			.30					.07	.11	T.	.02	.02		.06	.80	.20						1.47			1.48	.90	5.63
Garnett	do									.08				.29			.16				.40								.19			.35	1.56
Hermit	do																															
La Veta Pass	do		.27		.09								.04	.24	.21						.20								.31	.28	.41	2.05
Manassa	do			T.		T.				T.			.05			.15							T.	T.			T.	.01		.48		0.69
Piators	do	.05	.43	.08	.04	.02			.15	T.			.04	.15	.23	.12			1.03	.03			.16				.46	.11	.01	.18	.23	3.50
Saguache	do								T.	T.				T.	T.	.25				.20							.20				.35	1.00
San Luis	do		T.	.06											.41					.42								.03		.29	.37	1.58
Wagon Wheel Gap Exp. Sta.	do	.01	.50	.11	.04	T.			T.	T.	.09		.10	T.	.05	.12				.17			.07				.19	.02	T.	.10	.44	2.01
New Mexico.																																
Agricultural College	Rio Grande								*	.88					T.			.03	.17											.06	.04	1.18
Alamogordo (near)	do		T.						1.03	.90		T.				.02		.02	T.	.05	.14					T.		.02	T.	.03	.10	2.31
Alamogordo	do								.85	.92						T.		T.		T.	.20									.03		2.00
Atamos Ranch	do			.13		.15				T.	.08				T.	.10				.10	.08		T.				.15		T.	.59	.32	1.50
Albuquerque	do			.12		.08			T.	T.			T.						.22	.07						.33				.20	.32	1.04
Ancho	do																.24			.15						.42				.13		0.94
Anchor Mine	do																															
Artesia	Pecos				T.			.02		.72											.07										.06	0.87
Aspen Grove Ranch	Rio Grande			.09	.16					.39			.12	.02	.11					.27				.23		.31		.09	.11	.31	.32	2.53
Bateman's Ranch	do			.37	T.	T.							T.		T.	T.				.40	.50		T.				.58		.28			2.13
Berino	do								*	1.50			.02	T.					T.	.12	.30								.06		.04	2.04
Bluewater	do		.05						T.				.06	T.	.23	.05			T.	.26	.19							.06		.16	.60	1.66
Boaz	Pecos									.74											.17										.06	0.97
Capitan	do										.26	.17						.20		.58								.01	.47	.37	.69	2.75
Carlsbad	do				.01				T.	.53							T.	T.		T.											.62	1.16
Carrizozo	Rio Grande									.17						.02			.40											T.	1.31	1.90
Chama	do		.20			.15				.15			.28							.90	.08		T.			.70			.70	.30	3.46
Cloudcroft	Pecos			T.					.59	1.07	.15	.58							.13	.08	.70							.13		.36	.20	3.99
Corona	do																						*			*		*	*		1.00	1.00
Coyote	Rio Grande			.02						.18	.17					.04	.02			.16	.15					.02				*	1.73	2.49
Cundiyo	do			.50												.22					.41									.60	.10	1.83
Demonstration Frm.	Pecos																													.30		0.30
Duran	do			T.					T.																		T.	T.	.18	.10	1.00	1.28
Escondido	Rio Grande								T.	.87	T.						.14		.05	T.		.07						.02	T.	.29	.01	1.45
Espanola	do				.45						.20				.06	.13					.28						.30				.60	2.02
Estancia	do				.14				.09				.18											.14								0.55
Fort Stanton	Pecos			.19		.04			T.	.23	.10	.02	T.						.05	.06	.44								.06	.09	.22	1.50
Fort Sumner	do									.33					T.		T.	T.	.05											T.	.05	0.43
Gallinas	do			.03													.22			.18	.18									.15	1.18	1.94
Gallinas Pl't'g Sta.	do			.14		T.			.05			T.														T.			T.	.09	.33	0.61
Glorieta Ranch	Rio Grande									.71	T.			.12				.30	.40	.92	.11						.03	T.	.11	.05	.93	3.68
Harveys Upper R'ch	Pecos			.22					.27	.08	.11	.06	T.					.05					.08	.11			.17	.09	.14	.67	T.	2.05
Hillsboro	Rio Grande		.38	T.					*	*	.36			T.				.12	.26		.28						.10	.12	.06	*	.92	2.60
Hondo Reservoir	Pecos				.10					1.80							.05		T.	T.							.05				.95	2.93
Jemez Springs	Rio Grande			.11	.08		.03			T.		T.	.15	T.	.30	.08			T.	.35			T.				*	.40		.30	.30	2.10
Knowles (near)	Pecos			T.					.30	.35									T.	.62	.77										.02	2.06
Laguna	Rio Grande		.30											.10	.50					.20						.10			T.			1.20
Lagunita	Pecos																															
Lake Valley	Rio Grande			.37					.01	.60		.13		.04				.25	.83		.10						.17			.05	.20	2.75
Las Vegas	Pecos			.08					T.	.09											.18									.08	.25	0.68
Liston	do								.10	.38										.11											.50	1.09
Los Lunas (near)	Rio Grande														.15	.09				.70							.05				.12	1.11
Magdalena	do			.02	.30	.08			T.	.08	.15	T.		T.	.20	.25	.05		.22	.30	.35						.15	.05	T.		.15	2.35
Mescalero	do			.18					.03	1.05	.02	.07	T.					.23	T.	.06	.85					T.		.02	.09	.17	.29	3.06
Mineral Hill	Pecos	T.		T.					T.	T.		T.			T.											T.				T.	1.00	1.00
Monterey	Rio Grande								.15	.90							.15	T.	.06	T.	.60					T.			.16	.20	.17	2.39
Mountainair	do				.06	.03			.02	1.65		.11		T.	.01	.21	T.	T.	.02	.45		.01					.02	.01	.05	.03	.60	3.28
Newman	do									T.	.27																				T.	0.27
Noria	do									.06					T.				.58	.53	.25									T.	T.	1.42
Orogrande	do								.03	.82						T.	T.		T.	.25										T.	T.	1.10
Oscura	do					.03				.53						.02	.01	.02	.06	.54	.35											1.06	2.62
Otis	Pecos				.24			T.	.58	.25								.12		.11	.23											.26	1.79
Otto	Rio Grande			.02					.53		T.				.07	.08				.57			T.			T.	T.	.06	.10	.36		1.79
Pastura	Pecos								.01					.01	.01		.01				.51							.25		.42	1.21	2.43
Placitas (near)	Rio Grande				.38	T.				T.			.13		.04	.25					.40		.46				.05	T.		.07	.40	2.18
Plainview	Pecos																															
Red River Canyon	Rio Grande					T.					.30									.20	.50	T.								.60	.30	1.90
Rincon	do				T.					.20								.30		.32						T.	T.		T.	T.	0.82
Rio Grande Dam	do																															
Rio Grande Industrial School.	do					.03									.45	.06					.38	.27		.14							.32	1.65
Rosedale	do			.40	.10	T.			.10	.04	T.			.32	.05	T.	.50		.15	.70	.28					T.	.10	T.		.10	.30	3.14
Roswell	Pecos								.14	.66							T.		T.		.03						.02				.86	1.71
San Marcial	Rio Grande																				.05					.01				.01	1.79	1.86
San Rafael	do		T.	.03					T.	T.			.17	T.	.14	.04			T.	.23	.07						.15	T.	.28	.53	.15	1.79
Santa Fe	do	T.	T.	.33	T.	T.			T.	T.		T.	T.	.02	.02	.02			T.	.24			.10			T.		T.	T.	.14	.30	1.17
Santa Fe Canyon	do			.10	.03					.05		.04	.03	.02	.02				T.	.30		T.	.06							.90	.04	1.59
Santa Rosa	Pecos			T.	.03				T.	T.					T.	.15				.04	.23						T.	.24	.05	T.	.67	1.41
Socorro	Rio Grande			.35	.06				.03							.13		.12		.33	.61						.05			.70	.11	2.49
South Fork	do									.03			.13	.05	.27	.48				.28	.26		.20						.33		1.40	3.43
Stanley	do																															
Strauss	do								.14				.14						.88	.20												1.36
Taft	Pecos									T.																		T.		T.	.30	0.30
Tajique (near)	Rio Grande			.06						.44	.05				.19					.59		.04								.16		1.53
Taos	do			.23									.20		.33					.27						T.			.17	.04	1.16	2.40
Taos Canyon	do	T.		.80		.06			T.	.02			.42	.10	.22					.22							T.	.02	.19	1.26	.07	3.38
Tecolote	do			.03								.30	.03			.03	.02			.17	.07									.27	1.57	2.49
Three Rivers	do		.38							.40							.04	.40	.55	.62											.23	2.62
Tijeras Canyon	do					.18							T.	T	.12	.10				.39			.15			.17			.25			1.36
Torrance	Pecos			T.					.10	.09	.04								T.		.40							.05	.06	1.25		1.99
Tres Piedras	Rio Grande																															
Truchas	do	.05	T.	.12	.52	.12	.01						T.		.03	.21				.02	.23							.05		.30	.80	2.46
Tularosa	do																															
Vaughn	Pecos								.25		T.									(*)	.38								.25	.35	1.15	2.38
Virsylvia	Rio Grande			.07	.12				.10				.02		.01					.24						.11	.01			.52	.06	1.26
Winsors	Pecos			.48					.11										.01	.05	.11						.01			.19	.81	1.77

TABLE 2.—*Daily precipitation for September, 1911. District No. 8*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Texas.																															
Abilene	Brazos			1.15	T.																.23										1.38
Albany	....do			2.20																	.33	T.									2.53
Alice ‖	Coast			.05								.12								T.			T.	.02	.05	.05			.03	.32		0.64
Alpine	Pecos				.56		.35	.12														.53										1.56
Alvin	Coast		.28		.42		T.	1.41	.47	.01	.01			.04										T.			.06	T.	.02	.04	.32	3.08
Anahuac	....do	.17	.39						.13	.49	.10					.22	.06							.88			.28	.05	.10	.70		3.57
Antelope	Trinity			2.05																1.55										T.	3.60
Aspermont	Brazos			1.02	.40				.59													.06										2.07
Austin	Colorado																					.02	.04								.38	0.44
Ballinger ‖	....do				2.80	.10																	T.		.80							3.70
Barstow	Pecos									.30									.35												.67	1.32
Bay City ‖	Colorado		.22		.19					.30	.38		.22											T.	.55	T.			T.	.58	.60	3.04
Beaumont ‖	Neches		.73	.16	T.			.03	.29		.40												.27		.10						.81	2.79
Beeville	Coast		T.	T.	T.																			T.		T.			.12		.36	0.48
Big Spring	Colorado			1.78															T.	.01												1.79
Blanco ‖	Guadalupe				.11																		.15	T.		.44					.34	1.04
Boerne	San Antonio			T.																		.37						T.		.03		0.40
Booth ‖	Brazos		.67	.37	.03	.17			.28	.22			.24											1.44	.15	.11	.18		.25	.21	1.10	5.42
Bowie	Trinity				1.40				.51												.31											2.22
Brady	Colorado																															
Brazoria	Brazos		.38		.14				.45	T.	T.	.02				.05	.04				.08		.08	.68	.77	T.	.04	.75	.04	.06	.04	3.62
Brazos ‖	....do				2.93	.11																										3.04
Brenham ‖	....do			.06	T.	T.						.01												T.			T.	T.	.15			0.22
Bridgeport ‖	Trinity																															0.00
Brighton	Coast																		T.									1.05	.05		.10	1.20
Brownsville	Rio Grande	.21	.39							.28	.01		.04							T.					.80	.25	.05	.10		.02	T.	2.75
Brownwood ‖	Colorado				2.65	.65																.35										3.65
Cameron ‖	Brazos																						T.							.40	.24	0.64
Carmona	Neches		.54	.04	.16				.06	.11	.05																		.22	.26		1.44
Claytonville	Brazos			1.82																T.												1.82
Clifton	....do			1.33	.57																		2.00							T.	T.	3.90
Coleman	Colorado			.50	1.53																.17	T.										2.20
College Station	Brazos		.07	.08	.01																		.03	.41	.24					.75	.02	1.61
Colorado	Colorado			1.20															.92													2.12
Columbia	Brazos		.50						.50								.75							.40	.40					.30		2.85
Columbus ‖	Colorado			.30							T.													.80	.04			.62		T.		1.76
Corpus Christi	Coast	T.	.66							T.				.02											.16	.26	.14	.20	.20	.01	.12	1.77
Corsicana ‖	Trinity				.44	.32																	.85								T.	1.61
Cotulla	Nueces																															
Crockett	Trinity			.25	.12				T.	T.													.04		T.					T.	.30	0.71
Cuero ‖	Guadalupe	.04	.05																												.12	0.21
Dallas ‖	Trinity				.14	.04								.82								T.	1.21									2.21
Danevang	Coast	.70	.66					.35			.60	.50															.90			.20	.30	4.21
Decatur	Trinity																															
Del Rio	Rio Grande			.36		T.																										0.36
Devine	Nueces			T.																												0.12
Dialville	Neches		T.	T.	.05				T.													T.	.12	T.	T.			T.		T.	.20	0.37
Dilley	Nueces																						1.80									1.80
Dublin ‖	Brazos				1.90	.12																.03	.14	.29								2.48
Duval	Colorado																					T.	.05	T.	T.			T.		T.	.57	0.62
Eagle Pass	Rio Grande		T.			T.																						.03				0.03
Eastland ‖	Brazos				2.25																	.50										2.75
Edna	Lavaca		.22							.27	.30													.81						T.	1.10	.48	3.18
El Paso	Rio Grande								.18	.31	T.		T.						29	T.	.14	.01								.06	.01		1.00
Encinal	Nueces																															
Eola	Colorado																					T.									T.	
Fairland	....do				.02					T.												.14	.04								.02	0.22
Falfurrias	Coast	.12	.47	T.					.04	.14	T.														T.	T.	T.	T.	.34			1.11
Flatonia	Guadalupe		.07	.03	.03					.23						T.							.20	T.	.05			T.		.58	T.	1.19
Flint	Neches				.07																	T.	.30							T.	.08	0.45
Floydada	Brazos																															
Fort Clark ‖	Rio Grande			.02	T.																											0.02
Fort McIntosh	....do																															0.00
Fort Stockton	Pecos			1.00				.05										T.		T.												1.05
Fort Worth	Trinity			.41	.83																	.11									.03	1.38
Fredericksburg	Colorado				.45																	.07	T.									0.52
Gainesville	Trinity				1.30				.16																						.21	1.67
Galveston	Coast	T.	.38	.03	T.			.01	T.	.02	T.				T.			T.					T.	T.	2.06	T.	.04	.66	.07	.21	.02	3.50
Gatesville	Brazos			.25	.20																		.60									1.05
Georgetown ‖	....do				.03																T.		T.	T.							.67	0.70
Gonzales ‖	Guadalupe			.62																			.28	.22	.45					.08		1.65
Gorham ‖	Brazos				T.																		.45									0.45
Graham	....do			.12	2.60																T.	.40										3.12
Grand Falls	Pecos			1.20		.20																T.									.50	1.90
Grand Saline	Sabine			.11	T.									.07								.78	.36									1.32
Grapevine	Trinity			.30	.51																										T.	0.81
Greenville ‖	Sabine				T.																	T.	1.90	T.								1.90
Hallettsville	Lavaca		T.	.12	T.		T.			T.	T.												.47	.45		T.			T.	T.	.42	1.46
Hamlin	Brazos			1.33			.29																									1.62
Harlingen	Coast	.26		.29							.10											.08	.93			.03				.01		1.70
Harper	Colorado			.55																			.22	.13								0.90
Haskell ‖	Brazos				.90				1.60													.34										2.84
Hebbronville	Coast																								.21							0.21
Hempstead ‖	Brazos			.70	.15						T.	T.													T.	T.	T.		T.		T.	0.85
Henderson	Neches		T.		.55																24		T.							T.		0.79
Hewitt	Brazos				.12																	.07	.40							1.39	T.	1.98
Hico	....do			T.	1.36																					.02					.03	1.41
Hillsboro	....do				.29																			1.90								2.19
Hondo ‖	Nueces																							12			42					0.54
Houston	Coast	T.	.19	.03	.03	.42	.11	.07	.03		T.					.01	.13					T.	1.49				23	T.		.29	.11	3.14
Huntsville ‖	Trinity			1.72	T.	T.				1.02	.14	T.														T.					.95	3.83
Jayton	Brazos				.60																											0.60
Jewett ‖	Trinity																						T.							T.	.10	0.10
Junction	Colorado			1.20																			.20									1.40
Kaufman	Trinity		.45	T.	.07	.42																T.									T.	0.94
Kerrville ‖	Guadalupe				.05																		.25	.13								0.43
Knickerbocker	Colorado			.35	.60																.07	T.	.90									1.92
Kopperl ‖	Brazos				.40																			1.90								2.30
Lagrange	Colorado		T.	.01	T.											.01							.23	.33			.01	1.09		.02	.16	1.86
Lamesa	....do			2.10				.16																								2.26
Lampasas ‖	Brazos			.12	.71																	T.		.51								1.34

TABLE 2.—*Daily precipitation for September, 1911. District No. 8*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Texas—Continued.																																
La Parra	Coast																								.40			.40				0.80
Laureles Ranch	....do																															
Liberty ‖	Trinity		T.	T.		.35			.20		T.	.21				T.	T.	T.				T.		T.	T.			.32	.45	T.	.15	1.68
Llano ‖	Colorado			.32	.27						.15											T.	.18							T.	0.92
Llano Grande ‖	Rio Grande	T.									.35																					0.35
Long Lake ‖	Trinity									.13													2.20	2.01		.28						4.62
Longview ‖	Sabine													.27								.05	.05								.18	0.55
Lubbock	Brazos			.58				.14	.27	.15							T.	.11	T.		.06		T.								.04	1.33
Lufkin	Neches			.10	.08				T.													T.								.10	0.99
Luling ‡‖	Guadalupe			.35	.02							.03												.10						.03	.05	0.58
McGregor	Brazos				.08																		1.00									1.08
Marathon	Rio Grande			.19		.03												T.	.01					.07								0.30
Marble Falls ‖	Colorado																											T.				T.
Marfa	Rio Grande							.60										.10							.20							0.60
Marshall	Sabine		.30		.31							.53									T.										T.	0.61
Matagorda	Coast																					1.00	1.00								0.50	3.03
Mexia ‖	Brazos				T.						T.												T.	.04							T.	0.04
Midland	Colorado			.05		T.													.05												.05	0.75
Mission ‖	Rio Grande	T.	T.	T.	.03																					.24		.53	.32	.12	.10	1.34
Mont Belvieu	Coast	T.	1.18	T.		T.					.38												T.		.45	T.	T.	.18		.45	.48	3.12
Mountain View	Pecos			.30														T.	T.	T.			.05									0.35
Mount Blanco	Brazos			.28			.14	.25	.58											.18	.04										.46	1.93
Nacogdoches ‖	Neches		.53																												T.	0.53
New Braunfels	Guadalupe																							.37	T.				.18		.45	1.00
Palestine	Trinity			T.	T.			T.														T.	.19						.40	T.	0.59
Panter	Brazos				1.48																	.31	.08								.10	1.97
Pearsall	Nueces																					.05				.04						0.09
Pierce	Colorado	2.04	.60								.54												.34	.13							1.18	4.83
Plainview	Brazos			.06		T.		T.	.38	.83						T.					.95										.18	2.40
Port Arthur	Coast		1.85																								1.00					2.85
Port Lavaca	....do			T.	T.	T.	.42																.14	T.						T.	.08	0.64
Post City	Brazos			.83																											.44	1.27
Putnam	....do			.61	1.15																.20											2.02
Raymondville ‖	Coast		1.17	1.24						.02	.02	.61	.10								.21	.02		1.40		.35	T.	.15	.17	.13	.01	5.60
Ricardo	....do		.10		T.					.08	T.															.10	.40	.10	.95	.05	.21	1.99
Riverside ‖	Trinity		.65	T.		1.00				.85													.25								T.	2.75
Robert Lee ‖	Colorado																															
Rockland ‖	Neches						.10																							.40	.50	1.00
Rockport	Coast	.07															T.	T.								.50	.50			.15		1.22
Rossville	Nueces			T.					.07	T.													.24	.01		.03						0.35
Runge	San Antonio																						.44		.44	.35				.15		1.38
Sabinal	Nueces																									.02				.02		0.04
Salado	Brazos																							.16						T.		0.16
San Angelo	Colorado			.70																	.20		1.25									2.15
San Antonio	San Antonio																					T.	T.	.01							.11	0.12
San Augustine	Neches	T.	T.	T.	T.			.32	T.														.01	.73						.18	T.	1.24
San Juanito	Coast	.06	.04	T.						T.	T.									T.					.09		.32			T.		0.51
San Marcos ‖	Guadalupe				.14																											0.14
San Saba	Colorado			.09	1.83																	.01	.84									2.77
Santa Gertrudes ‡‖	Coast																											.33	.14	.08		0.55
Sealy	Brazos		T.	T.	T.				.16		T.						.02						.04	T.	T.		T.	.79		T.	.08	1.09
Seymour	....do			.27	.32				1.47												1.85											3.91
Snyder ‖	Colorado				2.78				.09										T.	.04												2.91
Somerville	Brazos			T.																			T.				T.					T.
Spur ‖	....do				.88				.35									.07	.04			T.										1.34
Stamford	....do			2.60					.20									20		.03												3.03
Stowell	Coast		.12					.05	.15			.15												2.02				.11	.15			2.75
Sutherland Springs	San Antonio			.06																				.02				T.		T.	.08	0.16
Taylor	Brazos			.07					T.													.03	T.	.02							.08	0.20
Temple ‖	....do			.01																			.18	.27								0.46
Theodore	Pecos			.65																												0.65
Thurber	Brazos				2.75																	.10										2.85
Tilden	Nueces																															
Tivoli ‖	Guadalupe				.30						.50												.14				.36		.40	.20	.96	2.92
Uvalde	Nueces																															
Valentine	Rio Grande			.63			.12	.90	.15	.28	.11								.12	.06	.68	.16									T.	3.21
Valley Junction ‖	Brazos				.45																			.32	.25						.45	1.47
Victoria ‖	Guadalupe		.16																						1.20			.08		2.00	.90	4.34
Waco ‖	Brazos				.62																			.70								1.32
Waxahachie ‖	Trinity				.33	T.																	T.							T.	0.33
Weatherford ‖	....do			2.93	.03																	T.	T.								2.96
Wharton ‖	Colorado		.02	.08							.07		.05											.10		3.20			.10	.01	.50	4.13
Wills Point	Sabine		T.																			.40	1.05							T.	.45	1.90
Winters	Colorado			.50	1.30																											1.80

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations, September, 1911. District No. 8, Texas and Rio Grande Valley.*

Date.	Colorado.				New Mexico.														Texas.							
	Garnett.		San Luis.		Agricultural College.		Carlsbad.		Fort Stanton.		Mountain-air.		Rosedale.		Roswell.		Santa Fe.		Santa Rosa.		Abilene.		Big Spring.		Browns-ville.		Corpus Christi.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	81	42	81	40	90	58	92	60	83	44	84	47	71	51	90	55	80	53	92	53	90	65	98	64	91	72	88	76
2....	74	41	77	39	92	58	94	59	83	45	89	47	77	50	90	54	79	56	91	52	92	68	100	64	91	71	86	72
3....	72	38	71	41	89	66	87	66	80	45	86	48	72	53	85	59	73	49	90	52	86	68	88	64	92	75	86	79
4....	76	36	72	38	91	66	91	63	81	50	83	50	76	50	90	64	73	47	89	54	85	68	94	66	93	74	88	78
5....	79	34	73	38	92	63	99	62	84	47	82	53	78	56	95	58	75	50	92	58	91	72	99	71	95	77	92	79
6....	75	41	72	40	91	65	98	63	84	50	82	48	78	52	93	60	74	47	90	62	93	74	101	71	92	78	89	79
7....	79	32	73	36	90	63	94	66	82	44	79	44	76	50	90	60	72	49	91	55	92	75	100	73	94	77	88	80
8....	79	31	76	34	90	64	94	66	83	45	85	44	75	57	90	59	77	50	86	58	91	73	98	72	96	75	87	80
9....	75	51	75	41	79	65	80	60	77	57	86	53	69	51	75	63	76	56	79	62	91	74	98	73	92	72	87	80
10....	79	44	74	43	89	63	92	63	80	49	83	49	73	50	88	60	78	52	94	55	91	73	98	71	94	73	89	79
11....	82	39	79	40	92	63	96	65	83	48	84	59	77	54	91	60	80	54	98	58	93	73	100	71	96	73	89	78
12....	82	39	79	46	92	66	97	63	85	46	85	52	78	53	92	60	79	56	94	58	94	74	101	74	95	74	89	78
13....	79	45	75	45	90	64	98	65	85	50	84	49	77	55	94	61	77	53	96	58	94	75	101	74	96	75	88	79
14....	69	48	79	46	91	66	100	65	85	50	83	51	76	55	94	61	74	55	92	58	93	74	100	74	95	76	88	79
15....	74	49	71	40	91	62	99	67	83	54	80	53	77	51	94	66	73	57	90	60	93	74	101	73	94	77	88	79
16....	75	40	74	41	92	66	100	66	86	47	85	49	79	53	95	61	75	51	92	61	93	74	101	73	95	76	87	78
17....	79	40	74	41	92	64	100	64	84	52	82	46	77	58	93	62	76	50	90	62	95	74	102	72	95	76	88	79
18....	77	35	74	38	86	55	85	65	70	55	69	45	70	52	78	64	72	46	81	57	95	74	103	76	94	74	87	79
19....	65	40	65	43	77	56	81	60	69	49	74	46	62	50	76	58	64	50	76	51	82	61	85	59	94	74	87	79
20....	72	35	71	40	82	53	88	63	75	49	79	38	73	46	85	59	69	50	85	55	93	64	92	61	94	71	87	77
21....	75	37	72	34	88	50	94	55	80	40	73	46	71	49	88	51	72	43	88	51	87	68	96	60	96	73	89	78
22....	73	35	71	40	90	50	95	57	83	44	80	49	77	51	89	53	75	52	90	50	88	68	92	60	92	71	89	78
23....	74	34	72	41	93	53	96	58	83	42	83	50	77	51	92	52	77	48	91	52	92	69	95	67	97	72	89	77
24....	78	35	75	40	95	54	94	61	87	50	82	48	78	54	92	57	76	48	95	56	92	70	98	70	88	71	88	79
25....	78	34	78	33	93	57	94	62	84	44	80	52	76	55	90	55	77	48	94	53	90	71	96	68	90	72	88	74
26....	70	40	74	39	93	60	92	60	83	48	81	50	71	54	90	53	73	56	91	58	90	69	95	68	89	72	89	77
27....	74	38	76	41	92	59	94	60	80	50	83	51	71	51	91	58	74	50	91	55	92	72	98	70	88	72	87	77
28....	74	40	75	39	90	58	94	60	81	46	81	52	72	53	92	55	75	56	92	55	91	72	97	71	92	72	88	76
29....	73	50	74	38	86	59	91	60	80	47	82	54	74	51	89	56	70	53	89	54	91	73	96	70	90	73	88	78
30....	66	40	78	39	83	54	85	66	61	56	81	56	73	52	74	60	65	53	72	60	89	73	98	71	91	74	88	77
Mns..	75.0	39.4	74.3	39.8	89.4	60.0	93.1	62.3	80.8	48.1	81.7	49.3	74.4	52.3	88.8	58.5	74.3	51.3	89.4	56.1	91.0	71.1	97.2	68.8	93.0	73.7	88.0	77.9

Date.	Texas.																									
	Del Rio.		El Paso.		Fort McIntosh.		Fort Stockton.		Fort Worth.		Galveston.		Hallettsville.		Houston.		Lufkin.		Palestine.		Plainview.		San Antonio.		Seymour.		Taylor.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	98	72	89	66	100	68	93	62	92	67	88	77	92	68	90	71	93	63	88	65	93	55	94	68	93	60	92	65
2....	99	73	89	67	100	69	93	61	94	71	85	74	96	73	83	74	91	72	80	73	95	56	93	74	97	66	91	71
3....	95	74	88	64	100	72	90	60	86	69	87	77	95	75	92	73	93	68	91	71	86	57	94	75	90	62	90	72
4....	99	74	90	67	102	71	92	60	86	67	87	81	96	75	89	74	91	71	90	72	93	58	96	76	86	62	95	76
5....	103	78	92	70	104	74	97	66	93	72	88	82	99	76	95	74	98	73	94	74	99	60	97	77	96	65	96	75
6....	102	79	90	68	104	74	100	67	94	75	88	82	99	79	92	75	94	75	93	75	99	60	96	76	98	67	95	75
7....	101	78	90	69	104	74	98	68	93	75	89	80	99	79	90	76	95	72	94	75	98	64	97	75	98	68	96	76
8....	98	76	90	67	103	73	95	67	90	76	88	81	99	75	90	75	96	71	94	74	79	63	96	77	91	63	96	75
9....	98	76	81	64	101	71	95	69	91	72	87	80	95	75	90	73	95	69	93	70	88	62	96	75	94	66	95	72
10....	97	76	88	66	102	71	97	68	93	74	89	82	98	74	91	75	93	72	94	72	90	62	95	74	97	65	95	72
11....	100	76	90	67	102	72	99	65	97	74	89	82	98	75	96	76	97	70	95	74	93	62	96	76	100	66	96	73
12....	100	76	91	68	103	71	97	68	98	76	88	82	98	75	96	76	99	70	96	75	93	61	96	75	98	67	97	74
13....	100	76	90	72	103	72	101	69	95	77	89	82	100	74	94	76	97	71	95	75	94	61	96	75	98	68	96	73
14....	101	77	91	69	103	72	102	70	95	75	89	82	99	74	94	75	98	70	95	74	94	61	95	75	98	70	96	74
15....	98	76	91	70	103	72	101	70	95	75	89	83	99	75	94	76	97	71	94	74	95	61	96	76	98	67	96	73
16....	98	76	94	73	104	73	101	68	96	77	89	83	99	75	93	75	98	70	95	75	95	62	96	76	98	67	96	73
17....	99	74	90	64	103	72	102	67	97	77	88	82	97	77	94	75	98	70	95	74	96	63	97	76	97	66	96	75
18....	99	76	85	64	103	73	97	60	98	76	89	82	98	76	94	75	96	68	94	73	90	63	95	76	102	69	96	74
19....	98	74	79	63	102	76	85	62	90	66	90	81	97	70	94	73	97	68	94	73	81	53	95	73	85	54	95	71
20....	98	74	82	61	103	72	92	62	94	67	88	80	97	70	95	73	97	68	94	70	75	54	94	75	88	53	96	70
21....	100	75	86	61	103	71	97	65	82	72	89	82	96	72	94	74	96	68	88	74	87	54	96	75	87	57	93	76
22....	99	78	88	62	100	71	91	62	86	67	88	80	95	75	91	68	95	70	82	72	88	56	95	74	88	62	85	72
23....	97	74	91	64	101	72	98	61	91	68	88	76	90	72	89	73	96	67	93	69	90	58	93	71	93	60	91	69
24....	97	74	90	66	101	71	95	67	92	70	86	72	92	72	90	72	97	67	92	69	90	59	93	71	95	63	92	68
25....	96	72	90	70	97	65	95	63	92	71	85	78	93	72	91	72	97	69	91	70	91	59	93	71	96	63	92	72
26....	97	72	90	68	99	69	94	66	92	72	86	78	93	73	87	73	97	71	92	71	88	57	93	71	95	62	92	71
27....	97	75	89	69	94	70	96	66	93	73	84	74	93	73	90	73	96	69	93	72	91	58	93	74	96	65	92	70
28....	97	75	89	65	100	70	93	66	92	72	86	76	93	73	90	74	97	69	94	71	91	58	93	74	97	56	93	71
29....	97	74	85	69	100	70	95	68	91	73	88	76	93	75	86	74	96	70	91	72	90	58	94	74	97	66	91	73
30....	94	76	85	65	100	71	94	70	89	75	87	80	85	75	87	75	91	70	91	72	82	60	90	75	93	66	88	73
Mns..	98.4	75.1	88.4	66.6	101.5	71.4	95.8	65.4	92.2	72.4	87.7	79.6	95.8	74.1	91.4	73.9	95.7	69.7	92.5	72.3	90.4	59.2	94.8	74.3	94.6	63.7	93.7	72.5

a, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1911.

DISTRICT No. 9, COLORADO VALLEY.

FREDERICK H. BRANDENBURG, District Editor. P. MCDONOUGH, Acting District Editor.

GENERAL SUMMARY.

September, 1911, was characterized by much cloudiness, frequent showers, and mild temperatures. Apart from Wyoming, where both the mean temperature and the precipitation were below the normal, the month was warm and wet over the greater portion of the Colorado Valley. Freezing or lower temperatures were noted in Wyoming on the 18th, and frosts were reported on several dates in localities in Utah, western Colorado, and the northern counties of Arizona, while in New Mexico the month was remarkably free from frost temperatures. The highest temperatures of the month occurred quite generally on the 1st, while the lowest were most common on the 7th or 21st.

The precipitation was generally well distributed. Moderately heavy rains fell over most of the district from the 25th to the close of the month. Considerable damage resulted to crops, lands, roads, and bridges in localities in Utah.

The sunshine was markedly deficient, and the relative humidity was somewhat in excess of the normal.

TEMPERATURE.

The mean of the 149 stations reporting was 67.2°, or 1.1° above the normal. The mean for 1910 was 68.8°. By subdivisions the means and departures were: Western Wyoming, 50.4°, −0.3°; western Colorado, 56.9°, +1.6°; eastern Utah, 63.1°, +2.5°; western New Mexico, 67.4°, +2°; Arizona, 75.3°, +0.3°; and southeastern Nevada, 70.4°. The highest monthly mean was 91.7°, at Mohawk Summit, Ariz., and the lowest, 41.2°, at Corona, Colo. By subdivisions the extremes were: Western Wyoming, 88° at Green River and 14° at Daniel; western Colorado, 96° at Palisade and 15° at Fraser; eastern Utah, 101° at Hite and St. George and 13° at Scofield; western New Mexico, 100° at Deming and 32° at Dulce; Arizona, 117° at Gilabend and 30° at Flagstaff No. 2; and southeastern Nevada, 107° at Logan and 34° at Caliente. Except in western Wyoming injurious temperatures were not common, and cold periods were infrequent and of short duration. The month opened warm, and daily mean temperatures were generally above the normal until the 5th, when a change to cooler set in, this condition lasting until the 9th; the remaining days of the month, with a few exceptions, were generally warmer than the average.

PRECIPITATION.

The average for the 198 stations reporting was 2.25 inches, or 0.95 inch above the normal. That for September, 1910, was 0.92 inch. By watersheds the means and departures were: Green, 1.88, +0.87; Grand, 2.08, +0.93; San Juan, 3.38, +1.22; Little Colorado, 2.52, +1.31; Gila, 2.20, +0.94; Mimbres, 2.40, +0.57; and Colorado proper, 2.19, +0.96 inch. The greatest monthly amount was 6.45 inches at a station near Silverton, Colo., while the least, 0.12 inch, occurred at Yuma, Ariz. By subdivisions the greatest and least monthly amounts were: Western Wyoming, 0.78 at Daniel and 0.39 at Green River; western Colorado, 6.45 at a station near Silverton and 0.61 at Dillon; eastern Utah, 6.14 at Ranch and 0.78 at Hanksville; western New Mexico, 3.30 at Gila Planting Station and 0.58 at Lordsburg; Arizona, 5.50 at Dos Cabezos and 0.12 at Yuma; and southeastern Nevada, 1.63 at Logan and 1.15 at Caliente. While over the district as a whole the occurrence of precipitation was somewhat irregular in point of time, yet there were some well-defined rainy periods. For the district the average number of days with 0.01 inch of precipitation was 8.

MISCELLANEOUS.

The sunshine was considerably below the average. Grand Junction reported 57, Durango 76, Flagstaff 65, Phoenix 79, and Yuma 89 per cent of the possible.

The relative humidity was slightly in excess of the normal. Grand Junction reported 47, Durango 68, Flagstaff 72, Phoenix 50, and Yuma 50 per cent.

Mr. L. N. Jesunofsky, section director, Phoenix, Ariz., reports as follows regarding a severe local storm which occurred on the 30th at Phoenix:

The winds blew brisk and high, southwest, west, and northwest, from 2.44 p. m. to 2.52 p. m., with a maximum velocity of 38 miles per hour at 2.45 p. m., and an extreme velocity of 56 miles at 2.49 p. m.

During the high winds many tents, trees, sheds, signs, awnings, roofs, telephone and electric-light wires, and brick walls were blown down, and several residences and warehouses were unroofed. Two persons were injured from the flying débris, but no lives were lost.

Three miles west and 4 miles east of Phoenix very little wind was experienced.

The storm was distinctly local and had none of the characteristics of a tornado.

CLOUDBURST AT COONEY, N. MEX.

On the night of the 14th a cloudburst in the Mogollon Mountains did considerable damage to the town or mining camp of Cooney, N. Mex. One life was lost, a number of houses washed away, and the mill and plant of the Enterprise Mining Co. badly damaged.

On the 30th, at Springdale, Utah, a flood in the Virgin River damaged crops and land to a considerable extent; 1.50 inches of rain fell in nine hours. At Sunnyside,

Utah, much damage resulted to the hay crop. At Tropic, Utah, the heavy rains at the close of the month did considerable damage to late crops, and put roads and bridges in an impassable condition.

NEW IRRIGATION PROJECT ON THE COLORADO.

By L. N. JESUNOFSKY, Section Director.

Within six months actual work of construction will be commenced on the Chuckawalla Dam, across the Colorado River, at a point in Pyramid Canyon, 40 miles north of Needles, Cal.

Mr. A. B. Koebig, of Los Angeles, the engineer in charge of the project, in company with several contractors, has visited the site of the dam, where surveyors are now at work.

Contracts will be let for borings in the bed of the river. This part of the cost will be about $25,000, and the result will enable the engineers to approximate the cost of the construction of the dam.

The entire work will be under the supervision of A. B. Koebig & Son, engineers for the Chuckawalla Development Co., and engineers of the War Department.

The exact point where this initial dam will be built is known as the Bulls Head site, and the dam will be 140 feet high and 400 feet wide. It will be built of concrete, in the form of what is known as an arch dam, with a gravity section. This powerful bulkhead will hold in reserve 850,000 acre feet of surplus water and will flood Pyramid Canyon northward for a distance of about 65 miles.

This immense volume of water not only will be used to irrigate the Chuckawalla Valley and Palo Verde Mesa, 120 miles away to the south, but from it will be developed electric power to raise the irrigating waters 300 feet above the bed of the Colorado River and cause it to flow over 300,000 acres of now arid land.

The plans include an intake dam and settling reservoir 15 miles above Ehrenberg. From the settling reservoir to the first pumping station is a distance of 8 miles; to the second pumping station, 9 miles; and to the third, 10 miles; and in this distance the water is raised 300 feet to the tablelands to be irrigated. Other plans call for 50 miles of initial canals to distribute the water over the 300,000 acres.

Mr. Koebig estimates that it will consume five years' time to complete the work, which will progress in units of 600 water inches each. The first unit may be finished in two years.

The 300,000 acres of land which it is proposed to irrigate has all been filed upon by desert entrymen, so that by the time the project is completed all will have proved up on their claims and obtained patents from the Government.

According to Mr. R. M. Teague, a heavy citrus grower of San Dimas and president of the Chuckawalla Development Co., the dam will be larger than that built at Roosevelt, Ariz.

The company, which is capitalized at $10,000,000, was granted permission by Congress, in February last, to construct the dam.

TABLE 1.—*Climatological data for September, 1911. District No. 9, Colorado Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Battle Mountain	Carbon	7,300																		Forest Ranger.
Daniel	Uinta	6,740	12	46.3	− 0.3	81	1	14	18	53	0.78	0.00	0.25	T.	4	12	18	0	nw.	J. M. Van Dervort.
Eden	Sweetwater	6,577	2	52.0	.....	83	1	17	18	54	0.63	.....	0.21	T.	10	12	11	7	w.	Eden Valley L. & I. Co.
Green River	...do	6,083	6	54.7	.....	88	1	31	4†	47	0.39	.....	0.12	0	6	13	7	10	w.	George W. Maxom.
Pinedale	Fremont	7,167	5	48.6[e]	.....	80	1†	15	18	57[e]	0.72	.....	0.24	0	8	10[e]	11[e]	6[e]	nw.	U. S. Forest Service.
Willow Creek Cabin	...do	7,500	2	45.1[i]	.....	76	1†	16	7	47[i]	1.45	.....	0.50	0	6	7[i]	5[i]	9[i]	nw.	Do.
Colorado.																				
Ashcroft	Pitkin	9,483	9	52.3	.....	73	8†	25	21	46	2.37	.....	0.47	0	21					Dan McArthur.
Breckenridge	Summit	9,536	22	46.2[e]	− 0.5	71[e]	11†	21[e]	21	45[e]	.....	.....	.....	T.	...	1[e]	12[e]	14[e]	sw.	Mrs. J. G. Thompson.
Buford	Rio Blanca										2.37	.....	1.02	0	9	22	3	5	w.	Mrs. H. Genier.
Cascade	San Juan	8,900	4	.....	.....	.....	.....	.....	.....	.....	6.25	.....	1.70	0	19	10	1	19	.....	San Juan W. & P. Co.
Cedaredge	Delta	6,175	13	62.6	+ 2.2	85	11	41	7†	44	2.70	+ 1.34	1.25	0	11	12	14	4	.....	Harry A. Cobbett.
Chromo	Archuleta	7,500	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lawrence Nolan.
Cochetopa	Saguache	9,088	2	.....	.....	.....	.....	.....	.....	.....	1.99	.....	0.44	0	11	8	9	13	w.	Miss Bessie McDonough.
Collbran	Mesa	6,000	18	60.8	+ 1.2	84	1	38	18	37	2.41	+ 0.99	0.74	0	10	19	5	6	sw.	A. A. Wood.
Columbine	Routt	8,766	1	.....	.....	.....	.....	.....	.....	.....	2.42	.....	0.49	0	13	10	16	4	sw.	Mrs. M. A. Caron.
Columbine Ranch	Delta	6,925	1	.....	.....	.....	.....	.....	.....	.....	3.98	.....	1.03	T.	11	10	7	13	sw.	Geo. W. Wade.
Corona	Grand	11,660	4	41.2	.....	58	5†	23	21	28	2.20	.....	0.48	0	8	.....	.....	.....	w.	U. S. Weather Bureau.
Cortez	Montezuma	6,100	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm. C. Syrett.
Craig	Moffat			57.1	.....	90[a]	2	22[a]	21	56[a]	1.99	.....	0.91	0	5	16[a]	7[a]	6[a]	.....	Joseph F. Haubrich.
Crawford (near)	Montrose	6,600	1	59.6	.....	81	5	40	21	35	2.14	.....	0.57	0	15	17	6	7	.....	C. W. Roe.
Crested Butte	Gunnison	8,867	1	48.7	.....	75	2	20	6†	49	2.93	.....	0.73	0	12	11	8	11	.....	Charles L. Ross.
De Beque	Mesa	4,935	1	64.6[e]	.....	88[i]	11	34	20	50[i]	1.10	.....	0.50	0	5	26	2	2	sw.	O. L. Fairley.
Delta	Delta	4,965	21	65.2	+ 2.4	92	2	33	21	53	2.48	+ 1.64	0.80	0	12	18	12	0	.....	E. M. Getts.
Dillon	Summit	8,800	1	47.1	.....	79	1	25	23	46	0.61	.....	0.14	0	6	7	12	11	n.	Harry T. Hamilton.
Durango	La Plata	6,534	16	60.4	+ 2.2	84	11	35	21	41	2.82	+ 0.97	1.01	0	14	6	19	5	nw.	U. S. Weather Bureau.
Eureka	San Juan	10,000	4	.....	.....	.....	.....	.....	.....	.....	1.95	.....	0.29	0	15	7	6	17	.....	San Juan W. & P. Co.
Fraser	Grand	8,560	2	45.3	.....	73	12	15	21	51	1.82	.....	0.45	0	10	6	7	7	w.	L. D. C. Gaskill.
Fruita	Mesa	4,510	12	64.8	+ 1.2	91	11	34	21	51	2.31	+ 1.15	0.65	0	8	12	13	5	.....	J. B. Willsea.
Gladtone	San Juan	10,400	4	.....	.....	.....	.....	.....	.....	.....	5.61	.....	1.49	0	20	0	18	12	ne.	San Juan W. & P. Co.
Glenwood Springs (near)	Garfield	5,823	13	57.6	+ 1.9	87	5	29	7	55	2.26	+ 1.28	0.80	0	11	23	0	7	w.	E. A. O'Neil.
Grand Junction	Mesa	4,608	20	67.7	+ 1.3	89	11	47	18	33	1.30	+ 0.35	0.32	0	11	12	8	10	se.	U. S. Weather Bureau.
Grandlake	Grand	8,153	3	.....	.....	.....	.....	.....	.....	.....	1.17	.....	0.30	0	5	17	11	2	w.	Mrs. Belle Kauffman.
Grand Valley	Garfield	5,089	19	63.4	+ 0.8	92	11	31	21	52	1.73	+ 0.36	0.56	0	12	10	13	7	.....	David Evans.
Gunnison	Gunnison	7,670	18	56.4	+ 4.4	79	2†	27	25†	47	0.96	+ 0.22	0.42	0	6	12	17	1	sw.	Clarence Adams.
Horsefly	Montrose	8,700	1	.....	.....	.....	.....	.....	.....	.....	3.67	.....	1.05	T.	7	11	15	4	sw.	Lawrence J. Finch.
Ironton	Ouray	10,000	1	.....	.....	.....	.....	.....	.....	.....	3.53	.....	0.64	0	20	2	25	3	sw.	P. H. Foley.
Ladore	Moffat			.....	.....	.....	.....	.....	.....	.....	1.77	.....	1.20	0	6	17	9	4	.....	Mrs. Geo. C. Bassett.
Lake City	Hinsdale	8,686	6	54.0	.....	75	1†	32	21	40	1.18	.....	0.25	0	13	9	7	14	s.	J. F. Maurer.
Lay	Moffat	6,190	17	57.0	+ 0.5	84	11†	26	7	51	2.23	+ 0.70	1.00	0	8	11	6	13	sw.	A. G. Wallihan.
Mancos	Montezuma	6,960	12	59.3	+ 1.7	83	11	36	21	38	3.32	+ 1.85	1.96	0	13	12	15	3	w.	B. M. Krumpanitzky.
Marble	Gunnison	7,951	2	54.5	.....	78	11	31	20†	39	3.49	.....	0.67	0	11	16	9	5	ne.	F. E. Morse.
Marshall Pass	Saguache	10,846	8	.....	.....	.....	.....	.....	.....	.....	1.70	.....	0.40	0	5	19	3	8	.....	Wm. L. Williams.
Meeker (near)	Rio Blanca	6,182	19	56.2	+ 0.5	82	12	27	7†	47	1.74	− 0.06	0.95	0	6	12	9	9	sw.	T. Baker.
Montrose	Montrose	5,811	22	63.4	+ 3.1	87	12	36	7†	47	1.84	+ 0.85	0.66	0	13	12	8	10	.....	U. S. Reclamation Service.
Nast	Pitkin	7,953	1	50.2	.....	75	11	26	21	43	2.32	.....	0.63	0	8	18	7	5	w.	Arthur Hanthorne.
Pagoda	Routt	6,500	20	58.6	+ 3.1	88	10†	23	7	53	5.07	+ 3.57	1.30	0	9	18	0	12	.....	Mrs. J. W. Scott.
Pagoda Springs	Archuleta	7,108	4	56.2	.....	84	11	27	7†	51	2.65	.....	0.63	0	12	12	12	6	sw.	E. T. Walker.
Palisade	Mesa	4,729	4	69.1	.....	96	2	48	21	38	1.36	.....	0.54	0	10	19	3	8	sw.	G. S. Herbolsheimer.
Paonia	Delta	5,694	16	61.6	− 0.7	81	10†	41	7†	36	2.72	+ 1.47	1.13	0	10	9	18	3	sw.	J. M. Underwood.
Parshall	Grand		2	.....	.....	.....	.....	.....	.....	.....	1.16	.....	.....	0	8	.....	.....	.....	.....	F. A. Field.
Pitkin	Gunnison	9,500	2	.....	.....	.....	.....	.....	.....	.....	2.23	.....	0.50	0	9	16	7	7	s.	Mrs. Maggie Cammann.
Pyramid	Rio Blanca			53.8	.....	81	11	25	7†	44	1.00	.....	0.35	0	8	8	21	1	w.	E. E. Egry.
Rangely	...do	5,050	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. C. P. Hill.
Redcliff	Eagle	8,695	18	.....	.....	.....	.....	.....	.....	.....	2.15	+ 0.87	0.68	0	9	15	4	11	.....	Dorothea Greiner.
Rico	Dolores	8,824	9	.....	.....	.....	.....	.....	.....	.....	3.01	.....	0.63	0	14	15	10	5	s.	Clinton B. Smith.
Rifle	Garfield	5,437	...	62.8	.....	89	12	36	21	44	1.03	.....	0.35	0	8	14	8	8	w.	Herman Eiche.
River Portal	Montrose	6,570	5	62.0	.....	85[a]	11	33[a]	21	46	1.86	.....	0.66	0	13	12[a]	3[a]	14[a]	.....	U. S. Reclamation Service.
Sapinero (near)	Gunnison	8,125	8	51.9	.....	74	1	25	21	44	2.42	.....	0.55	0	19	13	6	11	w.	W. F. Irving.
Shoshone	Garfield	6,110	1	62.4	.....	87	12	41	21	38	2.61	.....	0.87	0	14	12	5	13	.....	Central Colorado Power Co.
Silverton (near)	San Juan	9,400	4	46.6	.....	74	11	20	8†	54	6.45	.....	1.05	0	18	7	7	16	sw.	San Juan W. & P. Co.
Spruce Lodge	Grand	9,600	3	.....	.....	.....	.....	.....	.....	.....	1.74	.....	0.30	0	12	.....	.....	.....	.....	H. J. Wills.
Steamboat Springs	Routt	6,683	8	52.7	.....	82	11†	16	21	60	2.44	.....	0.90	0	5	22	1	7	.....	M. Elliot Houston.
Tacoma	La Plata	7,300	4	.....	.....	.....	.....	.....	.....	.....	4.02	.....	0.95	0	13	2	16	12	sw.	San Juan W. & P. Co.
Telluride	San Miguel			52.9	.....	79	11	23	21	48	3.45	.....	0.80	0	14	15	7	8	w.	John T. March.
Terminal Dam	La Plata	8,300	4	.....	.....	.....	.....	.....	.....	.....	5.40	.....	1.25	0	13	10	10	10	s.	San Juan W. & P. Co.
Terrill's Ranch	Mesa	7,000		.....	.....	.....	.....	.....	.....	.....	2.05	.....	0.70	0	13	10	17	3	sw.	A. F. Terrill.
Uncompahgre Plateau	Montrose	8,400	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Martin Esser.
Yampa (near)	Routt	8,000	2	.....	.....	.....	.....	.....	.....	.....	1.04	.....	0.18	0	7	11	10	9	s.	Percy A. Hughes
Utah.																				
Aneth	San Juan	4,800	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. R. Antes.
Bluff	...do		0	70.5	.....	95	1†	43	8	45	1.86	.....	0.71	0	11	6	2	22	sw.	Geo. D. James.
Castle Dale	Emery	5,500	12	60.8	+ 2.6	88	15†	32	20	55	1.75	+ 0.93	1.70	0	2	14	16	0	.....	James Jeffs.
Cisco	Grand	4,447	0	70.0	.....	100	1	40	7†	50	2.50	.....	1.00	0	5	19	5	6	.....	J. J. Anderson.
Desert Lake	Emery		0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. G. Mills.
Dragon	Uinta		0	61.0	.....	86	11	34	19†	45	2.01	.....	0.60	0	10	15	2	13	s.	Gilson Asphaltum Co.
Duchesne	Wasatch	5,507	5	57.6	.....	86	11	29	19	48	1.66	.....	0.50	0	10	11	13	6	.....	M. M. Smith.
Elkhorn	Uinta	6,657	1	.....	.....	.....	.....	.....	.....	.....	1.58	.....	0.30	0	10	9	15	6	sw.	Chas. De Moisy, jr.
Emery	Emery	6,200	10	64.0	+ 8.5	85	29	40	7	39	1.55	+ 0.77	1.00	0	3	7	5	18	sw.	H. C. Wickman.
Escalante	Garfield	5,700	10	60.2	− 0.4	86	10	31	6	47	2.83	+ 1.85	1.65	0	4	12	0	18	.....	Geo. H. Barney.
Fisher Valley	Grand		0	62.8	.....	88	13	31	23	44	0.85	.....	0.43	0	5	17	0	13	.....	R. J. Saunders.
Fort Duchesne	Uinta	5,000	21	61.9	+ 1.3	91	11	28	18	54	1.44	+ 0.23	0.65	0	7	23	0	7	w.	Post Surgeon.
Fruitland	Wasatch	7,625	1	56.6	.....	86	1	25	18	52	2.35	.....	0.96	0	11	10	17	3	sw.	J. Peter Naab.
Green River	Emery	4,080	10	69.0	+ 4.0	99	1	36	21	51	1.03	+ 0.28	0.39	0	5	19	9	2	.....	Edgar E. Adams.
Hanksville	Wayne	4,200	1	66.0	.....	97	3	33	21	55	0.78	.....	0.51	0	5	13	17	0	s.	F. J. Weber.
Hite	Garfield	3,000	10	75.6	+ 3.3	101	1	51	21	41	1.12	+ 0.40	0.36	0	5	15	12	3	w-sw.	John P. Hite.
Kanab	Kane	4,925	0	.....	.....	.....	.....	.....	.....	.....	2.70	.....	0.70	0	8	16[e]	0[e]	11[e]	sw.	W. J. F. McAllister.
La Sal	San Juan	7,000	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gertrude W. Carpenter.
Loa	Wayne	7,000	10	54.5[e]	+ 1.4	78[e]	4†	27[e]	6	47	1.95	+ 1.40	1.15	0	8	.....	.....	.....	.....	W. S. McClellan.
Manila	Uinta	6,225	1	55.6	.....	86	11	26	19	53	1.42	.....	0.54	0	9	4	21	5	.....	Daniel M. Nelson.
Moab	Grand	4,000	22	70.2	+ 4.4	99	1	39	21	51	1.72	+ 0.62	0.36	0	9	16	5	9	.....	Henry Crouse.

TABLE 1.—*Climatological data for September, 1911. District No. 9*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date. Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Utah*—Continued.**																			
Monticello	San Juan	7,545	2	61.4	.....	77	1†	41	7 35	2.91	.....	1.34	0	10	15	8	7	sw.	Geo. F. Barton.
New Harmony	Washington		0	.....	.....	.....	.....	.....	.....	4.32	.....	2.90	0	3	5	0	25	s.	Geo. F. Prince.
Orderville	Kane	6,660	1	.....	.....	.....	.....	.....	.....	3.82	.....	1.84	0	9	.....	.....	.....	.....	F. A. Porter.
Pine Valley	Washington		0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mason Gardner.
Price	Carbon	5,557	0	61.5	.....	88	1†	36	19 45	3.41	.....	1.10	0	5	20	0	10	se.	R. H. Thompson.
Ranch	Kane	6,700	9	54.8	.....	84	1	27	6 47	6.14	.....	2.57	0	6	14	13	3	w.	J. W. Seaman.
San Rafael	Emery	4,200	0	.....	.....	.....	.....	.....	.....	1.30	.....	1.00	0	3	23	2	5	ne.	W. C. Foy.
St. George	Washington	2,880	21	71.9	+ 0.8	101	1	38	8 52	1.75	+ 1.26	1.01	0	3	12	11	7	.....	A. B. Ballantyne.
Scofield	Carbon	7,625	1	51.2	.....	80	1	13	7 52	2.01	.....	0.80	0	8	23	2	5	s.	Bernard Newren.
Springdale	Washington	3,500	3	75.4	.....	100	1†	53	22 42	4.32	.....	1.57	0	3	17	3	10	.....	Hattie Wood.
Sunnyside	Carbon	5,280	6	.....	.....	.....	.....	.....	.....	3.23	.....	.....	0	10	.....	.....	.....	.....	Henry Cullum.
Teasdale	Wayne	7,000	3	59.0	.....	81	1†	39	7 32	1.74	.....	1.03	0	6	11	1	18	.....	Josiah Shurtz.
Thompsons	Grand	5,150	0	67.4	.....	91	1	43	7 37	2.26	.....	0.99	0	5	18	7	5	sw.	A. M. Starmont.
Tropic	Garfield	7,000	13	59.0[e]	+ 1.6	84	7†	32	6† 52	2.50	+ 1.45	1.26	0	4	11[b]	7[b]	10[b]	sw.	E. P. Bolton.
Trout Creek Ranger	Uinta	9,200	1	.....	.....	.....	.....	.....	.....	1.70	.....	0.50	0	10	10	14	6	sw.	U. S. Forest Service.
Vernal	....do	5,050	15	60.0	− 0.1	89	11	27	18 51	1.60	+ 0.41	0.50	0	8	22	5	3	.....	S. P. Trim.
Woodside	Emery	4,645	0	66.8	.....	94	1	31	21 51	3.07	.....	1.30	0	3	21	2	7	s.	D. P. Adams.
New Mexico.																			
Alma	Socorro	5,500	15	71.6	+ 4.0	94	8	47	3 45	2.65	+ 0.66	0.50	0	12	4	22	4	se.	Max A. Balke.
Aragon	....do	5,856	4	58.8[d]	.....	82[d]	23†	33[d]	7 47[d]	2.75	.....	1.40	0	7	6	19	5	.....	John R. Milligan.
Aztec	San Juan	5,590	12	.....	.....	.....	.....	.....	.....	1.85	+ 0.87	0.73	0	13	8	17	5	sw.	Dr. T. J. West.
Black Rock	McKinley	6,500	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Bauman.
Bloomfield	San Juan	5,500	16	65.4	+ 0.6	89	1†	.....	 43	1.13	+ 0.29	0.28	0	9	5	22	3	sw.	Fred Le Clerc.
Cambray	Luna	4,215	12	.....	.....	95	3†	.....	.....	1.31	− 0.06	0.66	0	7	7	23	0	w.	Agent So. Pac. Ry.
Columbus	....do	4,054	2	.....	.....	92	7†	58	23† ...	1.81	.....	0.75	0	3	21	3	6	se.	Agent E. P. & S. W. R. R.
Deming	....do	4,333	34	72.7	.....	100	8†	48	22† 47	1.77	+ 0.34	0.92	0	6	12	7	11	w.	Agent So. Pac. Ry.
Dulce	Rio Arriba	6,756	4	59.0	+ 2.4	85	11	32	25 51	3.07	+ 1.32	0.93	0	15	11	14	5	w.	G. H. Blakeslee.
Fort Bayard	Grant	6,152	36	67.4	+ 0.9	85	24	50	20† 32	2.94	+ 0.99	1.39	0	8	21	7	2	ne.	U. S. Genl. Hospital.
Fruitland	San Juan	4,800	18	67.1	+ 3.3	92	1	40	21 47	2.88	+ 2.03	1.37	0	7	14	14	2	sw.	Cyril J. Collyer.
Gage	Luna	4,486	4	75.5	.....	95	17†	55	1† 37	2.20	+ 1.02	0.80	0	4	12	18	0	w.	Agent So. Pac. Ry.
Gila Planting Station	Grant	6,475	1	67.0	.....	84	24	50	20 30	3.30	.....	1.05	0	12	14	10	6	sw.	U. S. Forest Service.
Hachita	....do	4,504	2	.....	.....	.....	.....	.....	.....	1.93	.....	0.80	0	12	11	18	1	nw.	Agent E. P. & S. W. R. R.
Haynes	Rio Arriba	6,600	1	69.2	.....	94	8	41	29 32	1.80	.....	1.12	0	4	26	4	0	nw.	Dr. John R. Haynes.
Hermanes	Luna	4,451	2	.....	.....	92	16	60	18 ...	1.05	.....	0.50	0	3	10	13	7	w.	Agent E. P. & S. W. R. R.
Lordsburg	Grant	4,245	11	75.8	+ 1.1	96	3†	56	20† 40	0.58	− 0.36	0.33	0	2	0	28	2	.....	Agent So. Pac. Ry.
Luna	Socorro	7,300	11	59.5	.....	79	8	38	1 39	2.11	.....	0.85	0	7	1	29	0	s.	C. B. Martin.
Mimbres	Grant	5,007	6	.....	.....	.....	.....	.....	.....	2.86	.....	1.04	0	6	15	15	0	w.	Charles Dennis.
Pinos Altos (near)	....do	7,253	.....	.....	.....	.....	.....	.....	.....	2.48	.....	0.62	0	11	4	16	10	w.	O. L. Scott.
Pratt	....do	4,415	2	.....	.....	.....	.....	.....	.....	1.38	.....	1.00	0	4	15	7	10	s.	Agent E. P. & S. W. R. R.
Redrock	....do	4,150	6	.....	.....	.....	.....	.....	.....	3.05	.....	1.18	0	11	7	12	11	.....	Robert H. Woods.
Rodeo	....do	4,118	2	.....	.....	.....	.....	.....	.....	0.85	.....	0.55	0	3	16	14	0	.....	Agent E. P. & S. W. R. R.
Arizona.																			
Allaires Ranch	Cochise	4,184	15	.....	.....	.....	.....	.....	.....	3.08	+ 1.87	1.08	0	12	9	12	9	.....	Thos. Allaire.
Alpine	Apache	8,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Forest Service.
Aztec	Yuma	492	13	88.1	+ 0.6	112	1	60	7 43	0.48	+ 0.19	0.30	0	3	22	3	5	w.	Agent So. Pac. Co.
Benson	Cochise	3,523	32	74.6	− 2.6	97	2†	53	30 41	1.70	+ 0.78	0.70	0	6	20	7	3	e.	Do.
Bisbee	....do	5,500	22	69.6	− 0.8	85	1†	56	19 25	3.32	+ 1.45	1.10	0	9	6	17	7	w.	Rev. J. G. Pritchard.
Bowie	....do	3,756	36	73.0	− 0.6	98	10	48	21 46	1.39	+ 0.21	0.60	0	4	1	23	6	sw.	Agent So. Pac. Co.
Buckeye	Maricopa	980	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. E. Kell.
Canille	Santa Cruz	5,225	2	.....	.....	.....	.....	.....	.....	3.80	.....	1.42	0	12	0	29	1	sw.	R. A. Rodgers.
Casagrande	Pinal	1,396	29	85.2	− 0.6	110	1	60	26 30	1.65	+ 1.14	0.72	0	5	22	2	6	w.	Agent So. Pac. Co.
Casagrande Ruins	....do	1,422	3	84.2	.....	107	1†	63	7 46	0.64	.....	0.28	0	4	8	14	8	w.	F. Pinkley.
Cavecreek	Maricopa	1,520	3	79.6	.....	103	1†	51	8 49	1.58	.....	0.50	0	5	15	13	2	.....	E. A. Howard.
Chin Lee	Apache	6,090	3	66.6	.....	92	2	44	10† 42	2.80	.....	0.84	0	12	4	12	14	sw.	Fr. L. Ostermann, O. F. M.
Chlarsons Mill	Graham	8,000	6	61.6	.....	75	6†	48	7† 26	3.62	.....	1.00	0	10	12	14	4	.....	H. R. Chlarson.
Clifton	Greenlee	3,584	20	81.2	.....	98	2†	65	15† 28	1.08	− 0.56	0.43	0	11	19	10	1	.....	P. Reisinger.
Cline	Gila	2,300	12	77.5	+ 1.6	97	1†	57	25 37	2.55	+ 1.54	0.80	0	5	8	18	4	sw.	W. M. Clanton.
Cochise	Cochise	4,219	13	74.0	− 0.9	95	2†	42	8 47	2.70	+ 1.36	2.00	0	5	21	0	9	.....	Agent So. Pac. Co.
Columbia	Yavapai	1,900	11	84.1	− 2.8	104	22	66	30 34	1.72	+ 1.20	0.55	0	6	11	16	3	se.	M. J. Nolan.
Courtland	Cochise	4,543	2	.....	.....	.....	.....	.....	.....	2.22	.....	0.90	0	11	7	23	0	sw.	Agent E. P. & S. W. Co.
Dos Cabezos	....do	5,250	3	68.7	.....	89	9	50	3† 36	5.50	.....	1.60	0	10	13	12	5	w.	N. Erickson.
Douglas	....do	3,930	8	76.6	.....	98	9†	56	22† 42	1.25	.....	0.41	0	7	14	16	0	sw.	Dr. F. T. Wright.
Dudleyville	Pinal	2,204	21	76.6	− 4.9	96	2	60	24 35	2.41	+ 1.05	0.54	0	17	2	22	6	sw.	G. F. Cook.
Fairbank	Cochise	3,862	1	.....	.....	.....	.....	.....	.....	2.30	.....	0.52	0	9	10	16	4	sw.	Agent E. P. & S. W. Co.
Flagstaff	Coconino	6,907	19	57.8	+ 2.3	79	1	35	24 40	4.41	+ 2.32	1.31	0	14	11	9	10	sw.	U. S. Weather Bureau.
Flagstaff (1)	....do	7,452	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. C. Moers.
Flagstaff (2)	....do	7,500	3	55.4	.....	76	1†	30	6† 44	3.05	.....	0.64	0	11	8	8	14	sw.	U. S. Forest Service.
Florence	Pinal	1,504	11	82.4	+ 1.5	110	1	57	30 40	0.63	− 0.15	0.22	0	5	10	15	5	s.	Agent Ariz. Eastern R. R. Co.
Fort Apache	Navajo	5,200	40	68.5	+ 2.6	90	1†	49	6† 40	3.86	+ 2.24	0.81	0	9	19	11	0	sw.	Post Surgeon, U. S. A.
Fort Huachuca	Cochise	5,100	26	72.2	− 1.5	92	8†	52	26 34	1.58	− 0.32	0.92	0	8	24	0	6	ne.	Do.
Gila Bend	Maricopa	737	21	88.0	+ 2.4	117	1	57	8 51	0.36	+ 0.11	0.16	0	3	22	4	4	.....	Agent So. Pac. Co.
Globe	Gila	3,525	10	76.0	+ 0.6	100	1	57	24 42	3.60	+ 1.91	2.68	0	9	4	26	0	nw.	B. G. Fox, M. D.
Grand Canyon	Coconino	6,866	8	58.6	.....	80	18	34	7 33	3.25	.....	0.72	0	8	18	4	8	sw.	Agent G. C. R. R. Co.
Grand Canyon (1)	....do	3,676	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. C. Spaulding.
Granite Reef Dam	Maricopa	1,372	20	84.4	− 1.3	106	1	63	7 36	1.57	+ 0.89	0.80	0	4	15	12	3	sw.	U. S. Reclamation Service.
Greer	Apache	9,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Forest Service.
Hereford	Cochise	4,180	1	.....	.....	.....	.....	.....	.....	1.22	.....	0.70	0	6	1	21	8	sw.	Agent E. P. & S. W. Co.
Holbrook	Navajo	5,069	21	70.5	+ 0.7	99	11	43	25 50	2.70	+ 1.86	0.60	0	8	17	8	5	sw.	T. Larson.
Indian Oasis	Pima	3,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Menager.
Intake	Gila	2,230	6	.....	.....	.....	.....	.....	.....	1.75	.....	1.45	0	2	19	9	2	w.	U. S. Reclamation Service.
Jerome	Yavapai	4,743	14	72.5	− 0.4	92	1†	56	15† 32	1.99	+ 0.85	0.40	0	7	9	19	2	sw.	Dr. L. A. Hawkins.
Keams Canon	Navajo	6,600	7	64.8	.....	87	11	41	24 41	1.55	.....	0.40	0	14	7	21	2	w.	D. E. Livesay.
Kingman	Mohave	3,326	9	73.9	.....	106	1	43	7 51	1.23	.....	0.93	0	3	15	7	8	sw.	G. R. Gooding.
Lakeside	Navajo	6,500	13	61.2	.....	83	1†	39	24 44	2.55	+ 0.69	0.71	0	8	7	0	23	sw.	Prof. J. Peterson.
Lewis Springs	Cochise	4,029	2	.....	.....	.....	.....	.....	.....	2.88	.....	1.10	0	8	0	28	2	.....	Agent E. P. & S. W. Co.
Maricopa	Pinal	1,186	35	85.5	+ 2.8	111	2	58	7 46	2.16	+ 1.62	0.95	0	4	13	11	6	sw.	Agent So. Pac. Co.
McNeal	Cochise	4,490	1	.....	.....	.....	.....	.....	.....	4.24	.....	1.70	0	13	13	14	3	w.	C. E. Bolton.
Mesa	Maricopa	1,244	17	80.8	− 0.6	101	1†	60	6 36	1.20	+ 0.60	0.63	0	4	9	18	3	sw.	C. L. Diehl.
Mohawk Summit	Yuma	538	12	91.7	+ 3.5	112	1†	65	30 42	0.15	− 0.05	0.15	0	1	21	9	0	e.	Agent Southern Pacific Co.
Naco	Cochise	4,579	1	.....	.....	.....	.....	.....	.....	2.76	.....	0.71	0	10	8	17	5	sw.	Agent E. P. & S. W. Co.
Natural Bridge	Gila	4,990	22	.....	.....	.....	.....	.....	.....	2.13	+ 0.36	0.75	0	6	10	14	6	sw.	D. G. Goodfellow.

TABLE 1.—*Climatological data for September, 1911. District No. 9*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Arizona—Continued.																				
Oracle	Pinal	4,500									4.59		1.69	0	10	8	17	5	w.	W. H. Winters.
Osborn	Cochise	4,676	2								4.78		1.11	0	10	12	15	3		Agent E. P. & S. W. Co.
Paradise	do	5,436	5	67.0		88	24	48	20	37	0.82	+ 0.46	0.40	0	3	25	0	5	sw.	J. C. Hancock.
Parker	Yuma	345	14	80.6	− 2.9	113	1	50	5†	55	1.74		0.77	0	4	12	0	18	sw.	M. A. Israel.
Payson	Gila	5,550	3	67.1		89	24	42	25	42	2.18	+ 1.56	1.48	0	5	13	11	6	sw.	M. McDonald.
Phoenix	Maricopa	1,108	30	83.2	+ 1.8	106	1	64	7	36	2.18	+ 1.56	1.48	0	5	13	11	6	sw.	U. S. Weather Bureau.
Phoenix (1)	do	1,092	21	83.4	+ 2.0	108	1	56	7†	47	2.63		1.03	0	5	18	4	8	sw.	G. Acuff.
Phoenix (2)	do	1,189	3	82.8		106	1	63	25	34	4.10	+ 2.18	2.27	0	8	19	8	3		Horne & Armstrong.
Pinal Ranch	Pinal	4,520	17								1.63		0.40	0	12	16	13	1	sw.	Irion & Craig.
Pinto	Apache	5,660	7								2.02	+ 0.95	0.72	0	9	15	11	4		Mrs. C. F. Henning.
Prescott	Yavapai	5,320	44	65.1	+ 0.4	89	1†	42	7	38	0.63		0.45	0	2	18	10	2	w.	J. W. Flinn, M. D.
Quartzsite	Yuma	800	4	85.0		112	1	55	7	46	0.94		0.94	0	7	0	30	0	sw.	W. E. Scott.
Redrock	Pinal	1,864	4	85.6		106	3	66	24	36	2.00									W. J. Crowell.
Roosevelt	Gila	2,175	4	82.2							1.38		0.49	0	5	16	11	3		U. S. Reclamation Service.
Sacaton	Pinal	1,280	4	82.2		108	1	54	24	41	4.71		1.00	0	7	4	16	10	sw.	E. W. Hudson.
St. Johns	Apache	5,650	9	66.9		93	1†	44	24	44	1.88	+ 0.32	0.38	0	8	7	16	7	sw.	A. Shreeve.
St. Michaels	do	6,950	24	63.1	+ 4.4	85	1	41	25	43	0.65		0.36	0	4	4	19	7	sw.	Rev. A. Weber, O. F. M.
Salome	Yuma	1,875	4	79.4		107	1	50	7	48										Mrs. M. B. Swartz.
San Carlos	Gila	2,456																		F. S. Thomas.
San Simon	Cochise	3,609																		Agent Southern Pacific Co.
Seligman	Yavapai	5,219																		Lib. A. T. & S. F. R. R. Co.
Sentinel	Maricopa	685	13	87.7	− 1.5	111	1	64	6	39	1.17	+ 0.88	0.58	0	4	16	9	5	sw.	Agent Southern Pacific Co.
Silverbell	Pima	2,650	6	83.4		105	1	63	29†	29	3.67		1.80	0	8	17	3	10	s.	Imperial Copper Co.
Snowflake	Navajo	5,644	5	66.2		88	2†	40	25	47	1.39		0.50	0	9	0	21	9	sw.	W. J. Flake.
Springerville	Apache	6,862	1	55.2		80	11	30	23	48	2.53		1.00	0	9	13	9	8	s.	U. S. Forest Service.
Supai	Coconino	3,200	6	77.7		104	1	58	6†	36	2.76		1.31	0	9	15	11	4		A. H. Symons.
Tempe	Maricopa	1,165	7	82.6		104	2	58	7	42	1.74		0.98	0	5	11	14	5	sw.	F. H. Simmons.
Thatcher	Graham	2,800	9	78.1		100	2†	55	26	44	2.25		0.87	0	10	11	16	3	sw.	Prof. J. H. Larson.
Tombstone	Cochise	4,550	16	75.0	+ 2.1	100	9	59	19	37	4.18	+ 2.36	1.40	0	9	7	21	2		F. N. Walcott.
Truxton	Mohave	3,997	2	72.4		99	1	41	20	49	2.00		0.70	0	6	16	11	3	s.	G. A. Dennis.
Tuba	Coconino	4,500	11	68.5	− 1.4	94	1	48	8	36	1.98	+ 1.38	0.51	0	9	14	8	8	sw.	H. P. Marble.
Tucson	Pima	2,390	32	81.2	+ 0.8	101	2†	62	24	39	2.65	+ 1.73	1.68	0	7	13	13	4	sw.	University of Arizona.
Tucson (1)	do	2,380	3	79.6		102	1†	60	6†	42	2.90		1.30	0	6	13	16	1	sw.	J. M. Robe.
Tucson (2)	do	2,526	1	80.6		101	1	62	24	38	2.07		1.46	0	4	7	11	12	w.	U. S. Coast and Geod. Surv.
Vail	do	3,421	13	76.2	+ 4.2	102	1	52	27	41	1.49	+ 0.85	0.82	0	7	14	13	3	sw.	Agent Southern Pacific Co.
Walnut Grove	Yavapai	3,649	19								1.85	+ 1.11	0.75	0	4	16	11	3		J. O. Carter.
Wickenburg	Maricopa	2,072	13	80.0	+ 4.1	102	25	53	30	42	1.45	+ 0.83	1.05	0	5	17	9	4	sw.	Agent S. F., P. & P. Ry.
Willcox	Cochise	4,164	30	69.2	− 3.6	96	2	46	21†	48	1.95	+ 0.97	1.12	0	4	12	11	7	s.	Agent Southern Pacific Co.
Williams	Coconino	6,750	12	59.6	− 0.8	85	2	34	29	42	3.38	+ 1.50	0.90	0	7	11	15	4		E. J. Nordyke.
Winslow	Navajo	4,853	8	69.0		95	3	43	30	43	2.41		0.38	0	8	15	5	10		J. F. Bauer.
Yuma	Yuma	141	32	85.0	+ 0.8	109	1	56	7	45	0.23	+ 0.07	0.20	0	2	26	3	1	w.	U. S. Weather Bureau.
Yuma (1)	do	150	4	80.8		106	1	47	7	53	0.12		0.07	0	3	20	0	10	sw.	A. L. Crane.
Nevada.																				
Callente	Lincoln	4,407	1	64.2		96	1	34	7†	54	1.15		1.07	0	4	21	1	8	ne.	Salt Lake Route.
Logan	Clark	1,700	4	76.6		107	1	49	7†	48	1.63		1.42	0	3	13	8	9	s.	R. M. Filcher.

[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
**Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1911. District No. 9, Colorado Valley.*

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Wyoming.																																
Battle Mountain	Snake																															
Daniel	Green			.15		T.	T.						T.	.15									T.		.25	T.	T.	T.			.23	0.78
Eden	do			.11		.09	.01						.03	.01									T.		.02		.11	.02	.02		.21	0.63
Green River	do	T.		T.									.02	T.									.02	.07	T.			.12		.07	.09	0.39
Pinedale	do			.21		.17							T.	.02									.01		.02		.03	.02			.24	0.72
Willow Creek Cabin	do				.23	.20	.03							.50									.15	T.				.34				1.45
Colorado.																																
Ashcroft	Grand	.18	.08	.05			.03			.09	.08	.06	.13	.02	.32	.18		.06		.02	.47		.13	.06			.14	.02	.05	.02	.18	2.37
Breckenridge	do																															
Buford	White	.06		1.02										T.	.20									.12		(*)	.27	.10	.20	.40		2.37
Cascade	San Juan	.03		.19	.25	.01				.10	.30	.04	.02	.78	.05	.08				.23			.20	.49			.90	.22	.23	.43	1.70	6.25
Cedaredge	Gunnison			.15										.02	.13	.06							.29	.05			.22	.08	.20	.25	1.25	2.70
Chromo	San Juan																															
Cochetopa	Gunnison	.35	.10	.25									.05	.20	.21					.05			.07			T.	.05			.22	.44	1.99
Collbran	Grand			.09						T.			T.	.03	.22						.43		.17				.41	.09	.15	.08	.74	2.41
Columbine	Yampa		.08	.06				.08					.11		.07								.13	.07		.14	.23	.19	.32	.49	.45	2.42
Columbine Ranch	Gunnison				.04								.10	.30	.10	.11				T.	1.03		.33				.55		.32	.08	1.02	3.98
Corona	Grand	.32	.02		.22		.38									.48														.21	.39	2.20
Cortez	San Juan																															
Craig	Yampa			.45																							.35		.08	.20		.91		1.99
Crawford (near)	Gunnison			.09	.09							.03	.22	.11	.10	.07					.09		.17	.02			.30	.05	.13	.10	.57	2.14
Crested Butte	do		T.	.05	T.	T.				.10	T.		T.	.20	.28					.14	.06		.73				.33	.18	.15	.06	.65	2.93
De Beque	Grand														T.	.01												.01	.40	.50	.18	1.10
Delta	Gunnison			.21							.12		.06	.15	.15					.01			.03				.26	.03	.40	.26	.80	2.48
Dillon	Grand	T.	T.	.10	.10	T.	T.	.12					T.	.14	.02		.10	.13		T.	T.	T.					T.	T.				0.61
Durango	San Juan	T.	T.	.22	.08	.10				T.	.01		.48		T.					.25			.06	.01		.06	.17	.04	.03	.78	.53	2.82
Eureka	do		.10		.11	.08				.10		.11	.28		.11	T.	.08			.17				.14		.09		.10	.08	.11	.29	1.95
Fraser	Grand	.19	T.	.25		.12							.11		.32					.12							.08	T.	.09	.45	.09	1.62
Fruita	do	T.	T.	.22	T.	T.				T.	T.	T.	T.	.10	.04								.02				.46	.65	T.	.45	.37	2.31
Gladstone	San Juan	.42	.31	.15	.19	.13	T.		.01	.24	.07	.17	.08	.09	.08	T.				.25	T.		.49	.59	T.	T.	.22	.11	.37	.15	.40	5.61
Glenw'd Spr'gs (n'r)	Grand				.07									.80	.30	.03					.04	.20					.12	.17	.04	.03	1.44	2.26
Grand Junction	do	T.	T.	.17		T.				T.	T.		.30	.02	.10					.07	.02		T.				.10	.15	.01	.12	.24	1.30
Grandlake	do		.25												T.	T.		T.	.18	.24						T.		T.	T.	.20	.30	1.17
Grand Valley	do		.06	.01		T.	.04			T.		T.	.02	.02	.18								.04				.34	.26	.12	.02	.56	1.73
Gunnison	Gunnison								T.					.15		.03		T.		.20			.07							.09	.42	0.96
Horsefly	do		.06	.08	T.	T.							T.	.70	T.													.95	.76	.07	1.05	3.67
Ironton	do	.21	.04	.27	.08	.09	.01			.03	.04		.23	.38	.20	.18				.01			.30	.08			.41	.05	.19	.09	.64	3.53
Ladore	Yampa			.10	T.																		T.	.12	T.		.15	1.20	.10	.10		1.77
Lake City	Gunnison	.04		.25							.01		.05	.15	.02	.14	T.						.04				.10	.04	.04	.09	.21	1.18
Lay	Yampa	T.	T.	.23	.29	T.								T.	.02									.01	T.	T.	.19	.18		.31	1.00	2.23
Mancos	San Juan	.02	T.	.03	.06						T.		.22	.06	.02					.04	T.		.07				.45	.03	.08	.28	1.96	3.32
Marble	Grand													.27	.11	.28				.11	.67		.32	.23			.54		.23	.09	.64	3.49
Marshall Pass	Gunnison												.20							.40							.40			.40	.30	1.70
Meeker (near)	White			.30										.15										.15			.19			(*)	.95	1.74
Montrose	Gunnison				.03					.01	.07	.16		.08		.14							.27	.01			.08	.13	.15	.05	.06	1.84
Nast	Grand	.09													.55	.15					.63		.12	.18			.17				.43	2.32
Pagoda	Yampa		T.	.13	.37	T.								.37									.70			1.30	.70	.40	T.	.01	1.09	5.07
Pagosa Springs	San Juan		T.	T.	.07	T.	.01			.10			.04	.03	T.					.63	.07		.03				.62	.13		.30	.62	2.65
Palisade	Grand	.01		.18											.08						.09		.10				.20	.05	.08	.03	.54	1.36
Paonia	Gunnison			T.							.03	T.		.03	.16	.06				T.			.15	.22			.46	T.	.23	.25	1.13	2.72
Parshall	Grand					.20									.36											(*)	(*)	(*)	(*)	(*)	.60		1.16
Pitkin	Gunnison			.20	T.						.20		.18		.06				.28				.16			.32				.33	.50	2.23
Pyramid	Yampa	T.		.21	.05	T.	.06						T.	T.	.11					T.			.04				.35			.11	.07	1.00
Rangely	White																															
Redcliff	Grand			T.		T.			T.			.02		.22	.68			T.	T.	.18	.38		.04				.18	T.		.11	.34	2.15
Rico	Dolores			.10				.20					.10	.18	.09			.10	.18		.18		.05			T.	.31	.15	.23	.51	.63	3.01
Rifle	Grand		.01	T.			.06								.23								.10				.19		.07	.02	.35	1.03
River Portal	Gunnison	T.			.06					.01	.09	.05		.16	.02	.10				T.			.12				.22	.16	(*)	.21	.66	1.86
Sapinero (near)	do	.05	.03	.06	.23					.03	.02	.07	.24	.09	.08	.05				.02			.07	.02			.42	.04	.24	.11	.55	2.42
Shoshone	Grand	.09		.38	.21		T.						T.	.25	.13	.11		T.		T.	.06		.04	.02			.16	.04	.08	.17	.87	2.61
Silverton (near)	San Juan		.80	.11	.19	.10				.35	.20	.80	.20	.40	.30					.10			.15	.35			.50	.30	.25	.30	1.05	6.45
Spruce Lodge	Grand	.05	.14	.17	.09		.11							.05	.21	.20					.30						.12			.20	.10	1.74
Steamboat Springs	Yampa			.22											.35								.57					.40			.90	2.44
Tacoma	San Juan			.06	.24					.08			.22	.45						.25			.11	.33			.59	.11	.09	.54	.95	4.02
Telluride	San Miguel	.07	T.	.32	.33	T.				.02	T.		.04	.09	.30					T.			.32	.14			.22	.35	.34	.11	.80	3.45
Terminal Dam	San Juan		.15	.10									1.25	.50	.15				.25				.30			.15	.50	.70	.14	.11	1.10	5.40
Terrill's Ranch	Grand	.02	.02	.08		.02				.01	T.		.23	.16	.18					T.			.05				.70	.08	T.	.30	.20	2.05
Uncompahgre Plateau	Gunnison																															
Yampa (near)	Yampa	.12	.18			.12								.18	.18									.12			T.			T.	.14	1.04
Utah.																																
Aneth	San Juan																															
Bluff	do			.13							.03		.22	.05	.01	T.				T.			.13				.34	.08	.04	.12	.71	1.86
Castle Dale	Green																													.05	1.70	1.75
Cisco	Grand														.30								T.				1.00	.30		.40	.50	2.50
Desert Lake	Green																															
Dragon	do	.07		.09							T.	.07	.13	T.	T.								.08	.20			.09	.05	T.	.53	.60	2.01
Duchesne	do	T.	.09	.01		T.					T.	.13	.08										T.	.06			.21	.50	.12	.40	.06	1.66
Elkhorn	do		.01									.04	.03											.20		.10	.20	.30	.20	.30	.20	1.58
Emery	Colorado			T.									T.	.25															1.00	.30	1.55
Escalante	do			.03																								.50		1.65	.65	2.83
Fisher Valley	Grand															.01											.02	.04	.43		.35	0.85
Fort Duchesne	Green			.10									.08											.01			.05	.65		.40	.15	1.44
Fruitland	do	T.	.03	.03		T.						.09	.20	T.								.01		.09			.10	.96	.22	.47	.10	2.35
Green River	do		.23											.05													T.	.04		.32	.39	1.03
Hanksville	Colorado	.14																									.02	.04		.07	.51		0.78
Hite	do		T.	T.							T.		T.		.22								.04				.30	.20	T.	T.	.36	1.12
Kanab	do		.30									.20	T.	.10								T.				.10	T.	.70	.10	.50	.70	2.70
La Sal	Grand																															
Loa	Colorado		.12	.08	.04							.12															.14		.16	1.15	.14	1.95
Manila	Green		.25	.02									.02	.24	.02									.05			.24	.54		.04		1.42
Moab	Grand		T.	.06									.36	.03									.09			.36	.19	.33	.06	.24		1.72
Monticello	San Juan										.05	.04	.06	.55	.26												.25	.12	.15	.09	1.34	2.91
New Harmony	Colorado												.25																	2.90	1.17	4.32
Orderville	do												.19	.10								.01								1.30	1.84	3.82
Pine Valley	do																															

TABLE 2.—*Daily precipitation for September, 1911. District No. 9*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
***Utah*—Continued.**																																
Price	Green												.57	.10														1.10		1.04	.60	3.41
Ranch	Colorado											.28	1.12														.21	.12		1.84	2.57	6.14
San Rafael	Green																											.20		.10	1.00	1.30
St. George	Colorado												.07																	.67	1.01	1.75
Scofield	Green					.02							.33										.03				.14	.30	.10	.80	.29	2.01
Springdale	Colorado																												1.25	1.57	1.50	4.32
Sunnyside	Green			.17								.23		.10	.45							.07				.21		*	*	*	2.00	3.23
Teasdale	Colorado			.02									.01	.08												T.		.10		1.03	.50	1.74
Thompsons	Green			T.									.22	T.	T.												.09	.50		.46	.99	2.26
Tropic	Colorado												T.											T.		.28	T.	.68	1.26	.28	2.50
Troutcreek Ranger	Green		.10	.05									.20		.20								.05		.05	.30	.50	.20	T.	.05	1.70
Vernal	do			.07									T.		.02								.10			.25	.50	.35	.20	.10	1.09
Woodside	do																										T.	1.18	1.30	.59	3.07
New Mexico.																																
Alma	Gila		.11			.03				*	.23	.27				.35			.11	.10						.09	.38	.48		.50		2.65
Aragon	do												.25	.20		1.40											.20	.10		.40	.20	2.75
Aztec	San Juan	.03	T.	.05	.08				.02				.37	.01	.17					.73	.05						.10	.06		.02	.16	1.85
Blackrock	Little Colorado																															
Bloomfield	San Juan	T.	T.	.03	T.				T.	T.	T.		.08	T.	.22	T.				.21	.02		T.			T.	.03	.08	T.	.28	.18	1.13
Cambray	Mimbres			T.	.08				.13	.10	.30								.66							.01			.03			1.31
Columbus	Gila				T.					.75								.50	.56													1.81
Deming	Mimbres			.10					*	.92				.10					.15								.10		.40			1.77
Dulce	San Juan	T.	.04	.02		.40				.08			.10		.10	.01			.90	.03			.07	.01			.51	.03		.25	.52	3.07
Fort Bayard	Mimbres		T.		T.				T.		.36				.03						1.39	T.				.02	.31	.02	.16	T.	.65	2.94
Fruitland	San Juan		T.	.20	.07					T.			.45		.27					.52						T.	T.	T.		1.20	.17	2.88
Gage	Mimbres								.80	.20							.50			.70										T.		2.20
Gila Planting Station	do		.06	T.	.04	T.				.19	.19	.67	T.	T.	T.					T.	1.05					.02	.14	.02	.18	.03	.71	3.30
Hachita	Gila				.20					.08	.05	T.		.04	.05		.11		.26		.80					.19		T.	.03	.05	.07	1.93
Haynes	San Juan																									1.12		.25	.27	.16		1.80
Hermanes	Gila									.35					.50												.20					1.05
Lordsburg	do																												.33	.25		0.58
Luna	do									.35	T.			.13	T.				.85	.13							.11		T.	.24	.30	2.11
Mimbres	Mimbres									.50											.74						.28		.16	.14	1.04	2.86
Pinos Altos (near)	Gila			.12		.07					.19	.32		.04						.21						T.	.02	.07	.23	.45	.16	2.48
Pratt	do			.17								.14														1.00	.17					1.38
Redrock	do			.03			T.			1.18	.07	.12	T.		.04			T.	.09	.34					.58		.20		.31	.09	3.05
Rodeo	do														.20					.55							.10				0.85
Arizona.																																
Allaires Ranch	Sonora			1.08							T.	.08	.05	.02	.10		.36	.50	.22	.20						T.		.15		.19	.07	3.08
Alpine	Gila																															
Aztec	do											.30		.08																		0.48
Benson	San Pedro									.25		.30	.20	.70	.10											.15						1.70
Bisbee	do			.27						.36	.11			.60	.60				1.10			.09					.17		.02	T.		3.32
Bowie	Gila				.60												18		.28								.33					1.39
Buckeye	do																															
Canilie	San Pedro	T.			T.			.04		.08	.10	T.	1.18	T.	1.42		.03	.10	.01	.13	.06					.20	.45	T.	T.			3.80
Casagrande	Gila											.18	.62														.05			.72	.08	1.65
Casagrande Ruins	do	T.											.08	.28								T.				T.	T.	T.		.16	.12	0.64
Cavecreek	Verde												.40	.02					.18											.48	.50	1.58
Chin Lee	San Juan		T.	.46					T.	.30	T.		.46	.06	.31	.02			.84				T.			T.	.05	.02	.09	.08	.11	2.80
Chlarsons Mill	Gila				.67	.07							.10	1.00	.07										.02		.10	.03	.77	.79		3.62
Clifton	do				.01							.21	.01	.15		.11			.03	.03						.04	.03			.03	.43	1.08
Cline	Salt				.30							.36								.35										.80	.74	2.55
Cochise	Desert				2.00					.12			.20	.20					.18													2.70
Columbia	Aqua Fria											.30	.05														.15	.42		.55	.25	1.72
Courtland	White							.04	.12	.20			.34	.11	.04		.08	.90									.04	.25	.10			2.22
Dos Cabezos	Desert			.26	.86						.37			.32			.51	.21	1.48	.03						1.30				.16		5.50
Douglas	Sonora	T.			T.				T.	.16	.07			.33			.24	T.		.01	.03					.41	T.			T.		1.25
Dudleyville	Gila	T.	.40	.14	.20						.01	.03	.04	.06	.05	.31		.07	.15		.21	.24	.03	T.		.02	T.	T.	T.	.14	.31	2.41
Fairbank	San Pedro				.19				.02		.15	.28	.50					.18	.42							.52			.04			2.30
Flagstaff	Little Colorado	.07	.18	.06					T.			.55	.21		.72	.17			T.	.08		.22				T.	.02	.15	.03	1.31	.64	4.41
Flagstaff (1)	do																															
Flagstaff (2)	do		T.	.15					T.			.11	.55	T.	.64	.05				.02			T.			T.	.21	.25	.35	.28	.44	3.05
Florence	Gila	T.									.10	.22	.05																	.06	.20	0.63
Fort Apache	Salt	.60			.50								.35	.81	T.	.23	T.										.50	.15	.36	.36		3.86
Fort Huachuca	San Pedro									.40			.92				.02	.08	.01	.08		.01				.06						1.58
Gilabend	Gila											.06	.14																	.16	T.	0.36
Globe	Salt		.23										.26	.10						.05							.05	.13	.02	2.68	.08	3.60
Grand Canyon	Colorado										.13		.08		.52												.52	.45	.28	.72	.55	3.25
Grand Canyon (1)	do																															
Granite Reef Dam	Salt								T.			.80	T.	.02												T.	T.			.57	.18	1.57
Greer	Little Colorado																															
Hereford	Gila								.05					.70	.20			.12	.05									.10				1.22
Holbrook	Little Colorado			.56									.14		.60					.50		.30					.15		.20		.25	2.70
Indian Oasis	Desert																															
Intake	Salt																										.30			1.45		1.75
Jerome	Verde		.30						.40			T.	.26	T.	.26							.30								22	.27	1.99
Keams Canyon	Little Colorado	.01	.15	.03		.02			T.	T.		.02	.40		.19	.05			T.	T.		T.	.11			T.	.14	.15	.10	.12	.06	1.53
Kingman	Colorado												.93														.03				.27	1.23
Lakeside	Little Colorado		.24									.22	.31	.58	.14	T.			.03	T.		T.					T.		.71	.31		2.55
Lewis Springs	San Pedro									.44				.50	.53		.03		1.10							.05	.14		.09			2.88
Maricopa	Gila												.31	.95													T.			.80	.10	2.16
McNeal	Desert	.04			1.70				.02		.06		.02	1.00	.18		.14	.13	.42								.03		.12	.38		4.24
Mesa	Salt				T.				T.			.20	.12		T.							.25					T.			.63	T.	1.20
Mohawk Summit	Gila																														.15	0.15
Naco	San Pedro			.03	T.				T.		.10		.15	.23	.11	T.		T.	.47		T.						.71		.69	.21	.06	2.76
Natural Bridge	Verde												.75		.10					.28							T.		.50	.30	.20	2.13
Oracle	San Pedro																															
Osborne	do			.10							.20	.60	.12				.93	.75	.06							1.69		.07		.07	4.59
Paradise	Desert				.42				T.		T.		.67	.70		.22	.61	.50	.22						1.11	.25			.08		4.78
Parker	Colorado											.20	.22	.40																		0.82
Payson	Verde								T.			.24		T.					.13						T.	T.		T.	.77	.60	1.74
Phoenix	Salt				.01				T.			.25	.17		T.							.02			T.	T.	T.		.18	.53	1.16
Phoenix (1)	do								T.			T.	.27	T.	T.				T.				.05		T.	.08	T.		.30	1.48	2.18
Phoenix (2)	do											.50	.44													.01			.65	1.03	2.63
Pinal Ranch	Gila	.04			.02								.59	.21						.07								.16	2.27	.74	4.10
Pinto	Little Colorado		T.	.10						.05			.35	.10	.10				.15	.01				.40	T.	.12		.07	.08	.10	1.63

TABLE 2.—*Daily precipitation for September, 1911. District No. 9*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Arizona—Continued.																																
Prescott	Hassayampa		T.						.04		.02	.09	.11	.15	.72												T.	.22	.10	.03	.56	2.02
Quartzsite	Colorado												.45	.18																	0.63
Redrock	Santa Cruz	T.			.50				T.		T.	T.	.20	.02				.03				T.				.01	.30			.94		2.00
Roosevelt	Salt																															
Sacaton	Gila													.33													.15	.20		.21	.49	1.38
St. Johns	Little Colorado				T.							T.		.60	.95				.75	.30								.90	.15	1.00		4.71
St. Michaels	do										T.	T.	.25	T.	T.				.10	.25			T.				.38	.20	.20	.30	.20	1.88
Salome	Colorado												.30		.12												.12	T.			.05	0.65
San Carlos	Gila																															
San Simon	do																															
Seligman	Verde																															
Sentinel	Gila												.46	.01															.58	.12	1.17
Silverbell	Santa Cruz	.05											.70	.25													.20	.20	.42	1.80	.05	3.67
Snowflake	Little Colorado		.02			.05			T.			.02	.12		T.	.21	.24		.03	T.								T.	.20	.50	.05	1.39
Springerville	do		.06	.10	.14										.65				.04	.02							.12	.40			1.00	2.53
Supai	Colorado																															
Tempe	Salt				T.							T.	.98	.11	T.	T.						T.	T.				T.	.01		.37	.27	1.74
Thatcher	Gila				.12								.06	.26	.06	.05			.01								.10	.02		.87	.70	2.25
Tombstone	San Pedro				.08					.55			.47	.17	.23			.65	1.40						.19		.44				4.18
Truxton	Colorado		.01									T.	.55		.51											T.	.03	.20	T.	T.	.70	2.00
Tuba	Little Colorado			.12								.10			T.	.31					.17		.28				.21	.24	.04	T.	.51	1.98
Tucson	Santa Cruz				T.	T.		T.				T.	.24	.38	1.30	T.		.03								T.	.09	.05	.56		2.65
Tucson (1)	do													1.30	.38						.32					.38		.05	.47		2.90
Tucson (2)	do		T.	.03	.01			T.					.15	.13	.83	.63		T.								.12	.01	T.	.13	.03	2.07
Vail	do												.16	.18	.12							.06				.05			.10	.82	1.49
Walnut Grove	Hassayampa								.20				.70																.20	.75	1.85
Wickenburg	do											.15	.10	.05													.10			1.05	1.45
Willcox	Desert				1.12									.32												T.		.14		.37	1.95
Williams	Colorado											.10	.38		.86					.04							.38	.72		.90	3.38
Winslow	Little Colorado		T.								T.		.33		.32	.14			.26	.38			T.				.34	T.	T.	.38	.26	2.41
Yuma	Colorado								T.				.03	T.														T.			.20	0.23
Yuma (1)	do												.03															.02			.07	0.12
Nevada.																																
Caliente	Colorado																										.01		.02	1.07	.05	1.15
Logan	do											.10															T.			.11	1.42	1.63

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1911. District No. 9, Colorado Valley.*

Date.	Wyoming.				Colorado.										Utah.										New Mexico.			
	Daniel.		Green River.		Durango.		Grand Junction.		Gunnison.		Meeker.		Steamboat Springs.		Emery.		Fort Duchesne.		Hite.		Moab.		St. George.		Bloomfield.		Fort Bayard.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	81	28	88	55	81	53	86	63	74	38	75	44	76	39	80	50	90	48	101	60	99	54	101	51	89	.....	81	54
2....	78	34	80	46	78	51	84	59	79	36	78	46	76	36	82	53	90	44	99	68	96	53	100	55	85	.....	83	52
3....	73	33	71	44	70	51	82	61	67	39	66	46	66	32	81	50	79	59	95	70	91	53	97	70	75	.....	82	51
4....	70	31	73	40	76	50	87	63	69	40	76	44	78	38	83	55	89	43	94	72	92	61	93	49	81	.....	82	54
5....	60	39	71	33	78	45	86	60	70	39	78	46	76	35	80	50	85	46	92	72	93	69	88	68	84	.....	81	55
6....	50	25	60	28	73	42	79	49	73	43	68	34	68	32	82	46	81	30	92	57	86	46	88	42	81	.....	81	54
7....	60	20	78	26	75	37	82	50	71	45	69	27	70	20	79	40	78	35	89	52	89	40	90	39	82	.....	82	52
8....	67	20	79	25	78	39	83	51	74	48	70	30	78	21	81	46	85	32	92	53	91	40	92	38	84	.....	84	57
9....	78	25	83	33	78	54	80	53	70	49	78	32	77	22	80	49	87	33	92	65	94	52	91	59	86	.....	81	57
10....	76	30	85	40	79	47	87	62	68	51	78	40	81	32	82	51	90	36	95	60	95	57	93	61	86	.....	79	55
11....	67	29	83	41	84	46	89	59	73	50	80	42	82	34	81	52	91	43	96	62	97	54	97	62	89	.....	83	56
12....	65	30	70	35	79	53	88	62	72	49	82	42	82	33	82	53	88	58	90	74	97	65	84	66	89	.....	82	53
13....	69	35	67	33	75	54	77	61	70	47	74	54	72	47	80	52	84	51	90	69	85	61	90	61	81	.....	81	58
14....	66	20	69	31	65	54	65	56	71	47	74	46	71	44	81	50	77	50	82	59	85	59	87	65	71	.....	83	56
15....	68	22	72	28	75	48	78	51	70	47	74	35	74	32	78	51	84	40	84	57	84	49	90	51	74	.....	85	53
16....	69	23	78	34	77	42	82	54	71	47	75	40	76	30	78	50	85	43	90	57	88	50	92	47	84	.....	83	55
17....	67	23	82	40	75	46	80	55	71	48	66	44	63	43	79	46	80	40	91	57	86	50	90	48	79	.....	82	58
18....	65	‖ 14	80	39	76	45	76	47	72	46	65	27	66	25	78	45	71	28	89	60	84	43	87	45	81	.....	78	57
19....	63	‖ 16	80	40	66	47	82	51	70	49	75	28	72	21	79	44	80	29	89	56	89	46	91	42	76	.....	76	55
20....	68	‖ 17	78	38	73	41	76	50	68	‖ 50	68	30	67	30	79	43	82	30	87	58	84	48	91	39	73	.....	79	50
21....	68	16	83	36	75	‖ 35	81	48	69	‖ 50	78	42	76	16	78	48	83	29	92	51	89	39	92	45	80	.....	80	52
22....	53	40	75	31	69	44	77	61	70	32	74	41	75	35	72	57	81	44	87	64	89	59	90	54	81	.....	81	50
23....	64	22	70	32	75	44	82	56	67	35	72	41	69	40	76	48	71	46	89	66	87	55	90	56	83	.....	83	52
24....	63	28	68	24	75	38	81	52	70	28	72	38	70	35	79	46	72	47	92	62	85	51	92	46	78	.....	85	53
25....	65	32	74	31	80	39	83	58	74	27	77	36	72	31	78	41	82	41	93	54	91	53	93	46	86	.....	82	55
26....	64	34	75	34	72	51	77	58	‖ 73	27	71	48	67	45	80	46	80	50	89	56	73	56	88	60	79	.....	78	54
27....	65	32	70	34	67	49	70	56	79	35	60	39	58	32	81	48	78	50	84	60	81	54	88	66	71	.....	79	56
28....	63	22	71	31	71	52	70	54	‖ 75	37	68	40	66	40	82	45	76	51	83	60	80	54	88	60	77	.....	77	56
29....	61	18	60	33	65	52	74	56	‖ 71	36	68	48	66	47	85	48	73	43	77	62	74	58	71	60	70	.....	74	54
30....	63	40	58	35	62	50	68	56	‖ 70	30	61	50	59	46	81	43	71	52	75	60	75	59	79	61	71	.....	73	55
Mns..	66.0	26.6	74.4	35.0	74.1	46.6	79.7	55.7	71.4	41.5	72.3	40.0	71.6	33.8	79.9	48.2	81.4	42.4	89.7	61.4	87.6	52.9	90.1	53.7	80.1	.....	80.6	54.3

Date.	Arizona.																						Logan, Nev.	
	Bisbee.		Flagstaff.		Fort Apache.		Grand Canyon.		Parker.		Phoenix.		Prescott.		St. Michaels.		San Carlos.		Tucson.		Yuma.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	85	60	79	50	90	52	74	50	113	70	106	76	89	56	85	50	.....	.....	100	69	109	76	107	64
2	83	60	78	43	90	50	73	48	110	65	104	72	89	54	83	53	.....	.....	101	66	107	73	105	60
3	83	61	74	45	89	52	70	45	103	69	102	75	82	54	81	51	.....	.....	99	70	105	66	100	56
4	79	61	71	49	88	50	68	43	103	70	99	74	79	52	83	47	.....	.....	94	76	103	79	97	57
5	80	63	69	52	82	55	69	39	101	50	96	72	76	58	79	49	.....	.....	93	73	100	70	97	58
6	80	59	70	43	85	49	68	37	100	50	95	69	77	43	82	43	.....	.....	93	67	100	58	94	50
7	80	61	72	37	86	52	67	34	101	50	96	64	80	42	79	47	.....	.....	96	66	101	56	96	49
8	79	61	67	36	89	50	66	35	101	50	95	69	68	45	74	42	.....	.....	96	66	102	71	97	52
9	82	61	74	41	88	56	67	37	103	60	99	68	83	44	81	51	.....	.....	100	68	104	65	98	52
10	80	60	76	46	86	54	73	43	104	62	99	77	84	54	82	53	.....	.....	97	74	104	67	100	58
11	83	61	79	45	83	58	75	47	105	60	100	71	84	55	80	50	.....	.....	101	70	105	73	102	58
12	78	61	63	49	80	56	75	54	100	65	90	69	72	56	84	54	.....	.....	90	68	99	71	92	64
13	73	59	69	49	75	54	74	53	89	70	86	68	76	51	79	49	.....	.....	87	64	86	71	90	61
14	78	59	57	50	81	58	54	52	89	70	86	73	65	56	70	55	.....	.....	88	68	90	73	98	63
15	79	58	68	46	80	54	65	46	90	75	91	70	75	50	73	51	.....	.....	88	66	100	70	96	65
16	80	60	71	42	82	52	75	50	100	60	96	70	78	48	72	49	.....	.....	94	67	103	69	98	58
17	75	63	71	49	81	55	77	54	100	60	97	72	76	56	73	44	.....	.....	96	70	102	70	97	55
18	69	59	71	47	82	56	80	54	104	66	96	72	77	55	74	52	.....	.....	92	67	102	70	94	62
19	75	56	70	46	80	56	78	52	102	60	97	75	79	54	72	46	.....	.....	92	69	102	66	95	55
20	78	57	73	40	84	50	76	50	103	61	98	72	81	46	74	42	.....	.....	94	66	103	67	97	49
21	79	59	73	39	82	52	77	48	104	52	101	70	82	50	78	43	.....	.....	95	66	104	69	96	58
22	81	58	71	47	87	50	76	50	102	50	98	73	81	54	78	51	.....	.....	97	66	101	68	97	55
23	81	59	72	39	85	49	75	49	103	52	100	69	81	45	79	47	.....	.....	99	64	105	63	97	55
24	85	60	75	35	89	52	77	51	105	53	102	66	85	47	80	43	.....	.....	101	62	106	65	93	57
25	83	62	73	38	87	50	74	50	104	55	90	66	84	47	84	41	.....	.....	90	72	103	68	94	57
26	78	58	70	44	88	55	52	40	107	52	96	72	80	54	74	51	.....	.....	92	71	101	65	93	56
27	77	57	70	49	84	56	58	43	104	60	92	68	78	55	74	53	.....	.....	90	67	95	76	95	58
28	80	60	68	52	86	54	60	45	100	62	98	72	77	54	76	54	.....	.....	97	65	100	73	88	56
29	77	60	65	50	69	54	61	48	95	62	84	69	75	55	73	55	.....	.....	86	67	94	73	88	66
30	78	61	60	48	75	56	64	50	95	60	87	66	67	54	63	51	.....	.....	88	65	92	73	75	66
Means	79.3	59.8	70.6	44.9	83.8	53.2	70.6	46.6	101.3	60.0	95.9	70.6	78.7	51.5	77.3	48.9	.....	.....	94.2	68.2	100.9	69.1	95.5	57.7

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
‖ Data are from standard instruments not supplied by the U. S. Weather Bureau.
‖‖ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1911.

DISTRICT No. 10, GREAT BASIN.

ALFRED H. THIESSEN, District Editor.

GENERAL SUMMARY.

Autumn conditions were apparent somewhat earlier than usual this year, a cool September having followed a cool August. Leaves turned to autumn tints and began falling earlier than usual, the wind movement was a little harder than in the month previous, frosts were earlier as a rule, and consequently the growing season was terminated sooner than is generally expected.

In Summit County, in the Utah area, maple leaves began to show their fall colors as early as the 8th, and the growing season was ended earlier in most of the counties occupying the mountainous portion of this State, but the average time of the occurrence of killing frost appears to have been about the usual date.

In the Nevada area heavy to killing frosts occurred earlier than usual, being general in the middle of the month, and the growing season, consequently, was brought to an early close.

The precipitation was much heavier than usual except in the California and Nevada areas. Most of the rain for the month in the Utah area fell during the last 4 days, but as the ground was dry and absorbed the greater part of the moisture, no conspicuous flood damage was reported. These rains were reported beneficial, though some alfalfa was damaged in the middle and southern portions of this area.

Snow was observed on the higher mountain peaks, although none fell at the observation stations.

The average number of rainy days was 4; clear days, 16; partly cloudy days, 7; and cloudy days, 7.

TEMPERATURE.

The mean temperature for the Great Basin, 57.1°, was 1.6° below normal. While the temperature for August differs slightly from that of July, September is usually decidedly lower than August. There is, of course, a wide range of temperature in the Great Basin, due to its peculiar topography, being composed for the most part of an elevated plateau traversed by numerous mountain ranges. This is evidenced by the fact that the mean monthly temperature at Wendover, Utah, was 67.5°, which was the highest in the district; while at Cliff, Oreg., the mean was 47.8°, which was the lowest. It is very probable that in the southern portion of the Nevada area higher mean temperatures were experienced, and that on the higher mountains lower temperatures would have been recorded had observers been stationed there.

The highest mean temperatures for the month occurred in the Utah and southern portions of the Nevada areas, while the lowest occurred in the Wyoming and Oregon areas. Plus departures occurred, as a rule, along the western slope of the Wasatch Mountains, in the Utah area south of Salt Lake City, and minus departures in the remaining portions of the district.

The month began with high temperatures over the district, the highest for the month being recorded generally on the 1st. At Jean, Nev., 104° was recorded on the 1st, which was the highest for the district. The weather continued warm in the Utah area until the middle of the month, but at the close of the second decade killing frosts were frequently reported. In the Nevada area the temperature fell after the 5th and remained low until the close of the month. The coldest weather of the month centered around the 18th, when the lowest temperatures were usually recorded. The lowest for the district was 10° on the 19th at Halleck, Nev.

It is to be expected that the temperatures of stations at or near large bodies of water will be influenced by them, and that at this time of the year the average temperature of stations near water will be higher than that of stations inland, provided all other conditions are equal.

The records for the stations Lemay, Utah, about 15 miles west of Great Salt Lake, and Midlake, on the Lucin cut-off, about in the center of the lake, illustrate the above point. At Lemay the monthly mean temperature was 62.6°; mean maximum, 75.4°; and mean minimum, 49.7°; while at Midlake the mean monthly was 66°; mean maximum, 71.3°; and mean minimum, 60.7°.

The monthly mean temperature at Lemay was 3.4° lower, the mean maximum was 4.1° higher, and the mean minimum was 11° lower than those of Midlake. These figures show the influence of the lake in modifying to a considerable extent the climate at Midlake. The mean temperature of the station on the lake was higher than that of the inland station, exhibiting the slowness with which water gives up its heat. The afternoon temperatures were, on the average, higher and the early morning temperatures were lower at the land station, showing how quickly land heats up and cools off compared to water. Again, the record at the inland station showed greater extremes than did the lake station. The highest temperature at Lemay was 86° and the lowest was 39°, making a monthly range of 47°; while at Midlake the highest was 82° and the lowest 50°, making a monthly range of only 32°.

PRECIPITATION.

The precipitation for the district averaged 1.20 inches, being somewhat heavier than that of September last year, and about 0.49 inch above normal. The least amounts occurred in the western and southern portions of the Nevada area and were generally less than the normal, while in the remaining portions of the district rainfall was heavy and generally much more than normal.

In the Utah area the greater number of stations which reported over 2 inches lie in the mountainous district of the southern part, but heavy rain fell in the northern part, the monthly amounts being in all cases over 1 inch, and in a few cases over 2 inches. The greatest monthly amount, 3.63 inches, was recorded at Cedar City, Utah.

In the Nevada area the precipitation in many localities was the lowest on record. There were several stations in the California and Nevada areas where no rain fell.

Precipitation fell at irregular intervals throughout the month, but in the Utah, Wyoming, and Idaho areas the greater part of the rain fell during the last decade, with the heavier amounts on the last two days of the month. The greatest 24-hour amount was 2.88 inches, at Cedar City, Utah.

TABLE 1.—*Climatological data for September, 1911. District No. 10, Great Basin.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Border	Uinta	6,085	10	51.6[a]	0	85	11†	16	18	51[a]	1.19	+ 0.18	0.42	0	5	15[a]	7[a]	7[a]	w.	S. W. Condron.
Cokeville	do	6,204	2	50.3[a]		87	1	15	18	59[a]	0.96		0.37	0	7	16[a]	7[a]	6[a]	w.	E. J. Tuckett.
Evanston	do	6,860	14	52.0	− 1.0	83	1	20	18	44	1.26	+ 0.32	0.60	0	6	17	8	5	w.	Frank Tucker.
Idaho.																				
Geneva	Bear Lake		3								0.43		0.18	0	5	27	2	1		F. W. Boehme.
Grace	Bannock	5,400	5	57.5		93	1	25	18	49	2.01		0.86	0	8	15	11	4	s.	Harold Cole.
Paris	Bear Lake	5,946	17	54.0	− 0.9	84	4	25	8†	50	1.12	+ 0.21	0.29	0	8	19	11	0	w.	John Norton.
Weston	Oneida	4,460	13	57.2	− 0.8	89	1†	25	18	47	1.69	+ 0.83	0.80	0	4	15	3	12	sw.	Wm. T. Chatterton.
Utah.																				
Alpine	Utah	4,900	14																	
Beaver	Beaver	6,000	8	62.4		86	1	32	18	38	1.60	+ 0.32	1.30	0	2	18	5	7		T. F. Carlisle.
Black Rock	Millard	4,872	11	60.9		95	1	24	18	59	3.53		2.17	0	6	12	15	3	sw.	James Connell.
Burrville	Sevier		0	55.4		82	1	28	6†	47	1.68	+ 0.52	1.13	0	2	16	6	8	s.	W. D. Livingston.
Castle Rock	Summit	6,244	8								2.31		1.10	0	4					F. R. Curtis.
Cedar City	Iron	5,750	6	64.6		91	1	34	18	40	3.63		2.88	0	5	15	5	10	se.	David Moore.
Center	Tooele		0	61.2		93	2	25	19	52	1.03		0.62	0	4	17	9	4	s.	Parley Dalley.
Clarkston	Cache		0								1.91		1.00	0	6	7	14	9		L. C. Peterson.
Corinne	Boxelder	4,240	41	65.0	− 0.3	102	1	33	18†	57	0.88	+ 0.22	0.88	0	1	13	6	11		W. J. Griffith.
Deseret	Millard	4,541	17			93	1				1.28	+ 0.50	0.70	0	3	15	6	9	s.	A. C. Murphy.
Enterprise	Washington	4,270	3								3.24			0	4					Samuel W. Western.
Erekson	Tooele										0.96		0.75	0	4					John Day.
Fairfield	Utah	4,866									1.25		0.75	0	3	19	7	4	sw.	N. W. Erekson.
Farmington	Davis	4,267	11	61.1	+ 1.4	90	10	32	18	50	0.86	− 0.38	0.35	0	6	16	8	6	sw.	W. Harden Ashby.
Fillmore	Millard	5,100	21	65.8	+ 4.3	101	1	33	18	50	1.63	+ 0.68	0.90	0	5					Charles Boylin.
Frisco	Beaver	7,318	17	60.0	− 8.1	93	1	29	6	49	1.56	+ 0.87	1.52	0	2					J. J. Starley.
Garrison	Millard		8																	Essen Nordberg.
Government Creek	Tooele	5,277	11																	E. M. Smith.
Granger	Salt Lake		0	57.8[f]		85	4	35	18	36	1.26		0.50	0	6					Walter James.
Grantsville	Tooele		2								1.24		0.43	0	5	18	6	6		G. E. Greene.
Grouse Creek	Boxelder										1.40		1.23	0	2	11	13	6	sw.	J. C. Woodmansee.
Heber	Wasatch	5,606	18	56.0	+ 0.8	90	1	24	18	54	1.89	+ 0.91	0.72	0	9	17	4	9	s.	Philip Paskett.
Henefer	Summit	5,301	12	55.4	+ 0.8	90	2	20	20	61	1.88	+ 0.74	0.55	0	9	13	7	10	w.	John Crook.
Hooper	Weber	4,436									1.26		0.67	0	4					William Brewer.
Ibapah (near)	Tooele	7,500	6																	T. M. Jones, jr.
International	do	5,370									1.40		0.76	0	6	11	12	7	se.	J. S. Lawton.
Iosepa	do																			I. S. R. Co.
Joy	Juab			63.4		90	1	32	18	40	1.06		0.53	0	3	14[c]	7[c]	6[c]	s.	Geo. K. Hubbell.
Kanosh	Millard	5,250	3								1.44		0.74	0	4					Samuel Hagans.
Kelton	Boxelder	4,230	33	58.6	− 2.5	87	11	26	18†	45	0.75	+ 0.34	0.35	0	4	0	26	4	ne.	Geo. Crane.
Lemay	do			62.6		86	2	39	18	39	0.70		0.45	0	2	13	14	3	s.	F. W. Klock.
Levan	Juab	5,010	21	61.7	+ 1.6	91	1	32	18	46	1.12	− 0.14	0.62	0	4	18	2	10	sw.	Agent S. P. Co.
Logan	Cache	4,507	20	60.6	− 0.8	89	1	35	18	39	1.92	+ 0.85	0.90	0	6					William Brown.
Low	Tooele			66.6		102	2	39	28	52	1.18		0.75	0	4	17	3	10	s.	Utah Ex. Station.
Lucin	Boxelder	4,504	7	58.6		91	1†	31	18	48	0.50		0.45	0	2	9	16	5		T. G. Morris.
Lund	Iron	5,086		60.1		88	11	32	19	49	1.93		1.28	0	2	17	11	2	sw.	C. J. Burke.
Manti	Sanpete	5,575	17	60.0		87	1	30	7	48	2.03	+ 0.89	0.88	0	7	7	3	20		Job T. Hall.
Maple Creek	Utah										1.84		0.71	0	8	16	10	4		J. M. Anderson.
Marion	Summit	6,750	7								2.16		0.59	0	10	9	4	17	s.	Lewis W. Gillilian.
Marysvale	Piute	6,180	12	59.9	+ 2.5	90	2	30	7†	53	2.33	+ 1.02	1.30	0	8	7	8	15	sw.	Jas. Woolstenhulme.
Meadowville	Rich	6,200	12	53.6	− 0.3	83	11	25	18†	43	1.11	+ 0.06	0.65	0	4	18	3	9	w.	John W. Henry.
Mercur	Tooele																			J. S. Moffatt.
Midlake	Boxelder			66.1		82	2	50	17	24	0.92		0.67	0	3	19	0	11		F. H. Franklin.
Milford	Beaver	4,962	7	60.2		96	4	24	29	66						24	1	5		Agent S. P. Co.
Millville	Cache	4,848	16								1.18	+ 0.16	0.71	0	4	11	16	3	s.	H. F. Aller.
Minersville	Beaver	5,070	14								2.98	+ 2.43	1.40	0	4					Fred Yeates.
Modena	Iron	5,479	11	60.0	− 0.2	89	1	34	19	45	1.76	+ 0.64	1.19	0	6	14	8	8	sw.	George Roberts, sr.
Morgan	Morgan	5,068	8																	U. S. Weather Bureau.
Moroni	Sanpete	5,519	3	61.5		86	1†	35	18	38	1.62		0.75	0	5	11	5	14	sw.	W. Visick.
Mosida	Utah										0.83		0.51	0	3	13	11	6	ne.	B. F. Eliason.
Mount Nebo	do	4,650	10	65.9[h]	+ 3.0	94	2	33	19	50[h]	1.30	+ 0.58	0.65	0	3	14[h]	4[h]	4[h]	s.	Roy P. Curtis.
Nephi (near)	Juab		8																	D. C. Walkey.
New Castle	Iron																			S. Boswell.
Oak City	Millard	4,900	7																	T. W. Jones.
Ogden	Weber	4,310	10																	Peter Nielson.
Park City	Summit	7,800	14	53.0	− 1.3	84	3	25	18	43	3.30	+ 2.44	1.30	0	8	11	11	8		A. Van De Graff.
Park Valley	Boxelder										0.74		0.63	0	3	16	3	11	nw.	Gertrude Evans.
Parowan	Iron	5,970	20	58.0	− 2.1	87	3	35	6	45	3.53	+ 2.49		0	4	22	0	8		Thomas Stirland.
Payson	Utah	4,637	8								1.29		0.50	0	6	14	6	10	sw.	Scott Matheson.
Pelican Point	do										1.10		0.71	0	6	16	8	6		D. L. Coombs.
Pine Cliff Ranch	Summit										2.00		0.45	0	7					B. M. Mendenhall.
Pinto	Washington	5,907	15	56.6[h]	+ 0.5	85[h]	1	28[h]	21	46[h]	3.55	+ 2.17		0	4	14[c]	8[c]	3[c]	s.	L. E. Leavitt.
Promontory	Boxelder	4,913	40								2.20	+ 1.60	1.00	0	3					J. H. Harrison.
Provo	Utah	4,532	23	61.0	+ 0.5	94	2	26	18	54	1.63	+ 1.05	1.00	0	5	10	18	2	s.	F. C. Houghton.
Randolph	Rich	6,442	9								0.72		0.42	0	4	24	0	6	sw.	James A. Oliver.
Revier	Salt Lake																			William Rex.
Richfield	Sevier	5,350	21	61.2	+ 2.7	90	11	32	18†	50	1.77	+ 1.25	1.10	0	4	17	5	8		E. L. Terry.
Saltair	Salt Lake	4,220	9	65.0		86	11	42	19	24	1.15		0.37	0	6					Joseph J. Jensen.
Salt Lake City	do	4,360	38	64.7	− 0.4	92	2	42	18	35	1.63	+ 0.78	1.11	0	6	15	7	8	se.	E. J. Bench.
Scipio	Millard	5,260	18	60.4	+ 1.0	90	1†	23	16†	57	1.45	+ 0.45	0.79	0	4	15	4	11	sw.	U. S. Weather Bureau.
Silver City	Juab	6,127	2								1.39		0.81	0	3	11	19	0	sw.	Thomas Memmott.
Spanish Fork	Utah	4,585	2	65.2		96	1	37	17†	45	1.25		0.50	0	7	11	10	9		J. L. Stark.
Strawberry Tunnel	do	7,650	6	55.0		83	1	23	18	47	2.42		0.65	0	12	11	13	6		W. P. Shippee.
Thistle	do	5,075	20	58.4	− 0.3	93	1†	21	18†	62	1.08	− 0.19	0.50	0	3	11	9	10	sw.	F. W. Cater.
Tooele	Tooele	4,900	16	64.5	+ 0.9	91	2	36	19	45	1.11	+ 0.24	0.35	0	6	9	0	21	s.	John Thorgeirson.
Utah Lake Pumping Station.	Utah	4,500	7																	E. A. Bonelli.
Vernon	Tooele																			W. A. Knight.
Wendover	do			67.5		92	1†	38	7	48	1.33		0.75	0	4	17	7	6	sw.	Glynn Bennion.
Whiskey Creek	Millard										0.56		0.41	0	2	12	12	4	w.	J. S. Cooper.
Woodruff	Rich	6,500	13	50.3	− 1.3	86	2†	15	20†	63	1.40		0.50	0	4					Geo. Stevens.
											1.00	+ 0.72	1.00	0	1	11	14	5	sw.	J. Sidney Pussey.

TABLE 1.—*Climatological data for September, 1911. District No. 10*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oregon.																				
Burns	Harney	4,157	20	51.4	.....	90	1	19	16	48	0.55	.....	0.30	0	5	14	10	6	.....	J. C. Welcome, jr.
Cliff	Lake	4,300	4	47.8	.....	84	1	13	18	58	1.31	.....	0.35	0	8	10	9	11	nw.	John C. Green.
Paisley	do	4,500	8	53.8[a]	.....	81[a]	1	35[a]	17	34[a]	1.31	.....	0.62	0	3	16[b]	7[b]	5[b]	w.	E. C. Woodward.
Silver Lake	do	4,700	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. W. Charles.
California.																				
Tahoe	Placer	6,240	1	48.2	.....	76	1	24	20	43	T.	.....	T.	T.	0	29	0	1	w.	R. M. Watson.
Truckee	Nevada	5,819	40	51.2	− 4.7	76	1†	24	19	46	0.00	− 0.26	0.00	0	0	10	19	1	se.	Southern Pacific Co.
Nevada.																				
Austin	Lander	6,594	22	57.2	− 1.8	87	1	26	26	42	0.00	− 0.51	0.00	0	0	26	2	2	sw.	F. O. Booe.
Battle Mountain	do	4,843	40	57.7	− 4.8	100	1†	24	27	62	0.10	− 0.16	0.10	0	1	14	8	8	w.	Southern Pacific Co.
Beowawe	do	4,905	40	.....	.....	94	2†	.....	.....	.....	0.53	+ 0.32	0.53	0	1	25	1	4	w.	Do.
Carlin	Elko	5,232	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
Carson Dam	Churchill	4,032	4	59.3[a]	.....	89	1†	30	18	49[a]	0.00	.....	0.00	0	0	.....	.....	.....	w.	U. S. Reclamation Service.
Cherry Creek	White Pine	6,450	3	58.7	.....	87	2	30	18†	45	1.51	.....	0.93	0	4	21	6	3	w.	J. H. Leishman.
Clover Valley	Elko	6,000	11	57.4	− 0.4	88	1	25	18	46	0.59	+ 0.06	0.44	0	3	18	9	3	sw.	I. F. Wiseman.
Columbia	Esmeralda	5,750	4	63.6	.....	93	1	36	28	41	0.48	.....	0.48	0	1	19	9	2	se.	A. Booth.
Dutton	Elko	5,100	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Golconda Cattle Co.
Elko	do	5,432	40	54.7	− 2.1	90	1	18	19	59	.....	.....	.....	0	....	14	9	7	w.	E. J. Clark.
Ely	White Pine	6,421	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. G. C. Hunting.
Eureka	Eureka	6,500	8	58.1	.....	89	1	24	18	46	1.20	.....	1.00	0	3	17	4	9	s.	Clay Simms.
Fallon	Churchill	3,965	6	58.4	.....	92	1	27	18	51	0.04	.....	0.04	0	1	20	8	2	ne.	U. S. Experiment Station.
Fernley	Lyon	4,200	38	59.4	− 3.6	92	1	23	18	56	0.15	− 0.11	0.15	0	1	22	7	1	.....	Mrs. G. A. Steele.
Gardnerville	Douglas	4,830	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm. Dangberg.
Geyser	Lincoln	.....	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. J. F. Wambolt.
Glenbrook	Douglas	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. C. Henningsen.
Golconda	Humboldt	4,697	32	55.1	− 6.5	90	1	25	28	46	0.00	− 0.30	0.00	0	0	25	1	4	nw.	Southern Pacific Co.
Halleck	Elko	5,631	18	51.4	− 4.6	92	1	10	19	64	0.51	+ 0.16	0.26	0	3	16	13	1	.....	Do.
Jean	Clark	2,074	3	.....	.....	104	1	.....	.....	.....	0.00	.....	0.00	0	0	19	0	11	sw.	Salt Lake Route.
Lahontan	Churchill	.....	0	63.8	.....	93	2	36	26	47	0.00	.....	0.00	0	0	22	4	4	w.	U. S. Reclamation Service.
Lewers's ranch	Washoe	5,500	23	56.3	− 4.0	83	1	32	28	43	0.00	− 0.79	0.00	0	0	22	8	0	.....	Ross Lewers.
Lovelocks	Humboldt	3,977	17	54.8	− 9.3	85	1	26	19†	49	T.	− 0.25	T.	0	0	19	10	1	s.	C. H. Allender.
Millett	Nye	.....	3	55.6	.....	98	1	24	19	54	0.16	.....	0.16	0	1	24	2	4	s.	Fred J. Jones.
Mina	Mineral	4,600	4	64.3	.....	95	1	34	19†	52	T.	.....	T.	0	0	17	5	8	s.	Southern Pacific Co.
Potts	Nye	6,990	18	52.2	− 3.5	85	1	18	18	49	0.10	− 0.20	0.10	0.	1	14	7	9	s.	Miss Mamie Potts.
Quinn River ranch	Humboldt	4,850	9	53.7[f]	.....	87	1	17	18†	61[f]	0.05	.....	0.05	0	1	.....	.....	.....	.....	F. M. Payne.
Reno	Washoe	4,532	40	57.4	− 2.3	85	1	31	18	45	T.	− 0.27	T.	0	0	24	5	1	w.	U. S. Weather Bureau.
Soda Lake	Churchill	4,534	4	59.4	.....	88	1	32	18†	42	T.	.....	T.	0	0	19	9	2	nw.	U. S. Reclamation Service.
Tecoma	Elko	4,812	33	.....	.....	89	11	.....	.....	.....	0.80	+ 0.44	0.40	0	3	14	3	13	n.	Southern Pacific Co.
Tonopah	Nye	6,090	6	60.7	.....	84	1	39	26	27	0.27	.....	0.27	0	1	19	7	4	se.	U. S. Weather Bureau.
Wabuska	Lyon	4,347	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Vic Bernard.
Wells	Elko	5,631	32	53.6	− 4.5	88	1†	16	18	55	0.80	+ 0.66	0.50	0	2	11	13	6	sw.	Southern Pacific Co.
Winnemucca	Humboldt	4,432	32	56.0	− 4.5	89	1	26	17	50	T.	− 0.34	T.	0	0	18	7	5	sw.	U. S. Weather Bureau.

[a], [b], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
* * Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1911. District No. 10, Great Basin.*

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Wyoming.																																
Border	Bear		.35				.08																				.16			.18	.42	1.19
Cokeville	do		T.	T.			.06						T.	.10									T.	.19	.10		.02			.12	.37	0.96
Evanston	do					T.	T.						.10	.16									T.	.14				.26		.37	.23	1.26
Idaho.																																
Geneva	Bear													.02									.12	.05	.06					.18	0.43
Grace	do	T.			.03	.36	.10						T.	.10									.86	.05	.04					.47	2.01
Paris	do			.25	.05																			.04		.08	.10		.15	.29	.16	1.12
Weston	do			.22										.17									.50								.80	1.69
Utah.																																
Alpine	G. S. Lake																							30						1.30		1.60
Beaver	Sevier Lake		.07										.14							.11										.98	2.17	3.53
Black Rock	do		T.											T.													.06				
Burrville	do												.35														.10			1.13	.55	1.68
Castle Rock	G. S. Lake																													1.10	.76	2.31
Cedar City	Desert												.22	.01													T.	.03		.49	2.88	3.63
Center	do													T.									T.	.34				.07		.40	.22	1.03
Clarkston	G. S. Lake			.05										.30									.50				.06			*	1.00	1.91
Corinne	do					T.	T.							T.									T.					T.		.88		0.88
Deseret	Sevier Lake																											.18		.70	.40	1.28
Enterprise	G. S. Lake																											*	*	*	3.24	3.24
Erekson																																
Fairfield	G. S. Lake											T.											.02	.11				.08		.75		0.96
Farmington	do													.10										.50						.24	.51	1.25
Fillmore	Sevier Lake		T.									T.	.01	.02									.03	.08				.25	.35	.05		0.86
Frisco	Desert																					T.		T.				.05		.65	.90	1.63
Garland																											.04			1.52		1.56
Garrison	Desert												.02										.08	.26					T.	1.00	.27	1.63
Government Creek	do																															
Granger	do		T.											.03									.04	.30	T.			.10		.50	.29	1.26
Grantsville	G. S. Lake													.05									.06	.43						.41	.29	1.24
Grouse Creek	Desert													1.23									.17									1.40
Heber	G. S. Lake		.15		.15								.14	T.									.05	.15			.08	.45		.36	.36	1.89
Henefer	do		T.	T.		T.	.01						T.	.12	.02								.15	.25	.04	T.	T.	.28		.46	.55	1.88
Hooper	do																						.10						.10	.39	.67	1.26
Ibapah (near)	Desert																															
International	G. S. Lake													.05									.10	.29				.20		*	.76	1.40
Iosepa	Desert																						.10							.35	.61	1.06
Joy	do																						T.	.30				T.		.53	.23	1.06
Kanosh	Sevier Lake																											.01	.05	.74	.64	1.44
Kelton	G. S. Lake												.10										.35							.05	.25	0.75
Lemay	Desert																							.25							.45	0.70
Levan	Sevier Lake												T.										.02					.22		.62	.26	1.12
Logan	G. S. Lake						.02	.01						T.									.24		T.			.02		.73	.90	1.92
Low	do																						.10	.05			T.			.28	.75	1.18
Lucin	Desert												T.	T.										.05						T.	.45	0.50
Lund	do																													.65	1.28	1.93
Manti	Sevier Lake		T.										.10		.03								T.			.05	.09	.18		.70	.88	2.03
Maple Creek	G. S. Lake			.02									.20	.10									T.	.10			.06	.14		.51	.71	1.84
Marion	do		.03			.28							.39	T.									.15	.35	.03		.03	.59	.02	.29		2.16
Marysvale	Sevier Lake	T.	.08	.01								.01	.13		.02							T.					.15	T.	1.30	.63	2.33
Meadowville	G. S. Lake		T.										.20	.06									.20								.65	1.11
Mercur	do																															
Midlake	do																						.25							.14	.53	0.92
Milford	Sevier Lake																															
Millville	G. S. Lake						T.							T.									.22	T.	.03					.22	.71	1.18
Minersville	Sevier Lake												.56									T.					.01		1.40	1.01	2.98
Modena	Desert												.01		.03							T.					T.	.05	.15	1.19	.33	1.76
Morgan	G. S. Lake																															
Moroni	Sevier Lake		T.	T.		T.					T.	T.	.12	T.									T.	.03		T.	T.	.20	T.	.75	.52	1.62
Mosida	G. S. Lake												T.									T.	T.				.08			.51	.24	0.83
Mount Nebo	do																												.05	.65	.60	1.30
Nephi (near)	do																															
Newcastle	Desert																															
Oak City	Sevier Lake																															
Ogden	G. S. Lake																															
Park City	do					.02							.03	.05								.20	.50	.90						.30	1.30	3.30
Park Valley	Desert													.01									.63								.10	0.74
Parowan	do												.20															.02		*	3.31	3.53
Payson	G. S. Lake												.05	T.	.03								T	.09				.14		.50	.48	1.29
Pelican Point	do																						.01	.20				.17	.01	.41	.30	1.10
Pine Cliff Ranch	do													.10	.33								.27	.10		.45	.30			.45		2.00
Pinto	Desert												.12																*	*	3.43	3.55
Promontory	G. S. Lake												.60																			
Provo	do		.15										.08																.60		1.00	2.20
Randolph	do																							.20						1.00	.20	1.63
Revier	do																					T.	.03	.07					T.	.20	.42	0.72
Richfield	Sevier Lake												.09	T.																		
Saltair	G. S. Lake		.02											.05														.12		1.10	.46	1.77
Salt Lake City	do												T.	.01									.04	.31						.37	.36	1.15
Scipio	Desert		T.									.05	T.	T.									.09	.32				.10		.85	.26	1.63
Silver City	do						T.																			T.	T.	.05		.79	.56	1.45
Spanish Fork	G. S. Lake																							T.					.03	.81	.55	1.39
Strawberry Tunnel	do	T.	T.	.01		T.						T.	.27	.03									.02	.03				.13		.50	.27	1.25
Thistle	do	T.	T.	T.	T.	T.							.24	.01	.01								.05	.19	.01		.04	.64	.01	.65	.56	2.42
Tooele	do	T.											T.	T.	T.								T	.08	T.	T.	T.	.50		.50	T.	1.08
Utah Pumping Station	do													.08									.05	.34			T.	.07		.35	.22	1.11
Vernon	Desert																															
Wendover	do																							.25		T.		.33		.44	.31	1.33
Whiskey Creek	do																						.15							.41	T.	0.56
Woodruff	G. S. Lake												T.									T.					.20	.40	.50	.30		1.40
Oregon.																														1.00		1.00
Adel	Southeast drainage.																															
Ana River	do					T.																										
Bear Valley	do																															
Burns	do				.10	.03	.05									T.										.30	.35	.07			T.	.10	0.45	0.55

TABLE 2.—*Daily precipitation for September, 1911. District No. 10*—Continued.

Stations.	Watershed.	Day of month.																											Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Oregon—Continued.																			*													
Burns Mill	Southeast drainage.				.02		T.	.23																		T.	.35	.07	.10			0.77
Christmas Lake	do				.18	.50	.04		T.	.08	T.						T.									.22	.09	.10		T.	T.	1.21
Cliff	do				.18	.35	.05			.10	.03						T.									.24	.24	.12				1.31
Diamond	do					T.	.18			T.																.18		.11				0.47
Embody	do			T.	.40	.20	.09		.03	.22			.18													.80	.35	.06	.02			2.35
Fort Rock	do	T.	T.		.25	.50				.45			T.													.70	.14				T.	2.04
Paisley	do				.21	.62																			T.		.48				1.31
Seneca	do									.68																			.40			1.08
Valley Falls	do				.06	.45	.09			T.															T.	.16	T.	.20				0.96
California.																																
Bijou	Truckee																					.05			T.	.07						0.12
Boca	do																															0.00
Deer Park	do																									.02						0.02
Glen Alpine	do																									.40						0.40
Hobart Mills	do																															0.00
Lundy	East Walker																					*	.25							.10	.05	0.40
Markleeville	East Carson											T.													T.						.01	0.01
Shields Ranch	East Walker																					.07		T.		T.					T.	0.07
Silver Creek	East Carson										T.														.03					T.		0.03
Tahoe	Truckee																									T.						T.
Tallac	do																									T.						T.
Truckee	do																															0.00
Woodfords	West Carson																					T.										T.
Nevada.																																
Arthur	Humboldt												T.										.02							*	1.00	1.02
Austin	Reese																															0.00
Battle Mountain	Humboldt																														.10	0.10
Beowawe	do																														.53	0.53
Bishop	do																															
Carlin	do																															
Carson Dam	Carson																															0.00
Cherry Creek	Humboldt																						.20	.03						.35	.93	1.51
Clover Valley	do												.06										.09							T.	.44	0.59
Cobre	do																															
Columbia	Desert																													.48		0.48
Dry Farm	Humboldt																						.20							.03	.55	0.78
Dutton	do																															
Elko	do																															
Ely	do																															
Eureka	do																					.10								1.00	.10	1.20
Fallon	Carson																							.04	T.						T.	0.04
Fernley	Truckee																														.15	0.15
Gardnerville	Carson																															
Geyser	Humboldt																															
Glenbrook	Truckee																															
Golconda	Humboldt																															0.00
Halleck	do												.05									.20									.26	0.51
Jean	Desert																															0.00
Lahontan	Carson																															0.00
Lewers Ranch	Truckee																															0.00
Lovelocks	Humboldt					T.																										T.
Massacre Lakes	Desert					T.	.05																		T.	.08	.10	T.				0.23
Mill City	Humboldt																															0.00
Millett	Reese																													.16		0.16
Mina	Desert																							T.						T.	T.	T.
North Fork	Humboldt																															
Potts	Reese																													.10		0.10
Quinn River Ranch	Humboldt							.05																								0.05
Rebel Creek	do					.08																										0.08
Reno	Truckee																									T.					T.	T.
Rose Creek	Humboldt							.03																								0.03
Skelton	do																					*	.50							*	.57	1.07
Smith	West Walker																T.														T.	T.
Spooners Ranch	Truckee																															0.00
Soda Lake	Carson																														T.	T.
Tecoma	Humboldt																				.30							.40		.10		0.80
Tonopah	Desert																					T.							T.	.27		0.27
Wabuska	Walker																															
Wells	Humboldt																						.30								.50	0.80
Willow Point	Little Humb't.																															0.00
Winnemucca	Humboldt					T.																										T.

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1911. District No. 10.*

Date.	Oregon.		Nevada.																							
	Burns.		Elko.		Ely.		Eureka.		Fallon.		Jean.		Lovelocks.		Millett.		Mina.		Quinn River Ranch.		Reno.		Tecoma.		Tonopah.		Winnemucca.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	90	42	90	48	.....	.....	80	53	92	50	104	.....	85	44	98	48	95	59	87	37	85	47	86	44	84	65	89	45
2	87	40	87	38	.....	.....	85	56	86	45	100	.....	82	39	85	40	94	55	86	37	78	45	86	46	79	58	84	43
3	75	39	79	39	.....	.....	80	40	83	47	98	.....	77	44	81	29	85	53	80	36	78	46	82	44	75	52	80	47
4	70	33	85	34	.....	.....	82	48	85	40	94	.....	78	40	82	31	84	43	76	33	73	42	84	42	76	54	80	38
5	69	34	80	47	.....	.....	77	36	72	35	99	.....	66	38	68	31	81	46	58	41	66	40	72	40	66	45	62	41
6	72	32	67	34	.....	.....	70	30	70	35	89	.....	69	32	70	31	75	43	70	37	71	37	78	42	66	41	68	32
7	74	34	70	29	.....	.....	73	34	75	37	92	.....	72	37	75	35	80	46	70	31	77	40	76	33	71	47	74	33
8	78	36	82	27	.....	.....	79	42	82	40	93	.....	73	35	80	28	86	67	77	37	74	44	84	32	75	53	78	35
9	79	34	82	30	.....	.....	78	44	83	44	92	.....	76	36	78	35	87	45	77	45	71	52	85	30	72	51	79	40
10	76	37	84	34	.....	.....	79	43	82	39	94	.....	75	40	80	49	86	46	82	37	74	43	82	.....	73	52	81	37
11	73	33	86	55	.....	.....	81	45	82	46	97	.....	75	45	82	52	87	53	82	44	75	42	89	.....	76	53	80	45
12	77	34	85	43	.....	.....	82	52	83	44	91	.....	76	46	80	45	88	56	75	46	72	42	82	.....	76	59	79	49
13	75	31	81	33	.....	.....	77	47	75	36	90	.....	70	53	82	29	88	48	70	35	75	37	76	.....	74	53	72	34
14	74	30	80	21	.....	.....	81	38	82	35	89	.....	71	35	83	29	88	36	80	26	80	39	84	.....	77	52	81	33
15	79	30	80	27	.....	.....	80	47	83	37	93	.....	75	32	83	29	86	45	79	46	78	41	84	.....	76	52	80	40
16	62	19	77	32	.....	.....	79	40	85	39	93	.....	76	31	78	29	85	44	72	38	77	42	80	.....	76	54	75	40
17	65	28	73	19	.....	.....	71	28	67	33	94	.....	67	27	73	30	82	36	67	23	67	34	84	.....	69	43	62	30
18	64	30	70	19	.....	.....	70	24	69	27	94	.....	67	27	73	25	84	41	74	17	72	31	79	.....	68	41	70	28
19	68	29	73	18	.....	.....	74	35	81	30	93	.....	75	26	77	24	82	34	.....	.....	80	35	74	.....	74	53	77	27
20	70	34	76	21	.....	.....	77	35	80	35	93	.....	74	35	80	27	84	39	78	17	82	39	77	.....	75	54	77	30
21	69	33	78	22	.....	.....	76	46	79	40	93	.....	75	33	72	33	85	47	81	20	74	43	79	.....	70	52	80	33
22	68	30	73	47	.....	.....	72	45	79	45	92	.....	73	42	74	45	78	52	.....	.....	70	48	72	.....	71	48	75	50
23	63	28	75	27	.....	.....	71	40	79	39	92	.....	72	38	77	35	79	47	.....	.....	75	43	75	.....	72	52	77	36
24	64	29	76	31	.....	.....	70	43	80	47	91	.....	74	42	70	40	77	50	.....	.....	77	50	78	.....	68	53	77	40
25	66	33	72	50	.....	.....	70	50	81	52	85	.....	76	55	59	45	79	55	.....	.....	71	43	74	.....	67	54	80	44
26	64	30	69	40	.....	.....	71	40	65	30	84	.....	62	29	69	39	75	39	.....	.....	66	38	75	47	66	39	64	35
27	66	28	67	23	.....	.....	68	44	70	32	84	.....	64	26	72	37	75	34	60	20	67	38	75	35	68	47	65	26
28	62	24	70	19	.....	.....	71	28	68	32	84	60	65	31	72	26	75	40	70	19	68	33	68	27	63	40	68	28
29	65	33	68	30	.....	.....	64	44	65	42	87	60	70	38	64	45	67	48	78	22	73	31	62	31	55	45	75	32
30	62	33	67	43	.....	.....	54	39	67	39	87	55	64	34	64	34	69	45	74	31	69	41	58	28	58	43	70	34
Mns..	70.9	32.0	76.7	32.7	.....	.....	75.0	41.2	77.7	39.1	92.0	.....	72.5	37.0	76.0	35.2	82.2	46.4	75.1[f]	32.3[f]	73.8	41.1	78.0	37.2[p]	71.2	50.2	75.3	36.8

Date.	Wyoming.				Weston, Idaho.		Utah.																					
	Border.		Evanston.				Corinne.		Deseret.		Iosepa.		Wendover.		Marysvale.		Meadowville.		Modena.		Woodruff.		Parowan.		Provo.		Salt Lake City.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	84	39	83	42	89	46	102	53	93	48	95	55	92	66	85	43	80	44	89	44	85	36	79	40	91	46	90	61
2	83	39	79	43	89	52	99	65	92	54	94	55	84	60	90	45	75	45	86	52	86	30	80	43	94	49	92	71
3	82	38	75	47	83	56	92	56	86	60	88	66	88	57	81	46	80	56	82	48	79	32	87	42	90	48	82	63
4	81	37	77	37	81	42	96	53	87	60	91	46	92	48	84	41	78	40	80	50	75	31	82	41	89	40	86	58
5	74	36	72	50	75	52	98	54	77	.....	99	60	96	48	70	57	72	55	73	45	72	30	72	40	78	54	74	50
6	70	23	60	26	64	40	82	46	72	.....	72	49	86	57	72	32	59	35	74	39	70	25	75	35	73	34	64	49
7	76	24	63	27	69	35	80	46	75	.....	76	42	80	38	76	30	64	31	77	39	70	29	80	39	76	32	68	47
8	.....	.....	74	27	77	31	86	48	83	.....	85	39	74	56	83	30	76	28	78	36	80	32	79	47	86	33	82	49
9	82	26	76	30	80	35	97	40	84	.....	86	56	89	60	82	42	79	33	79	45	79	28	81	48	88	36	84	60
10	82	34	77	39	82	43	98	45	86	.....	90	54	92	44	85	48	80	39	80	42	86	31	79	43	90	46	86	64
11	85	35	79	40	83	44	101	50	89	.....	93	59	92	58	87	50	83	40	83	48	84	36	83	48	92	46	89	63
12	85	34	76	45	79	50	91	55	80	.....	92	62	90	63	71	52	75	46	74	60	85	25	69	37	78	56	77	62
13	72	49	68	37	75	52	84	54	84	.....	91	65	86	61	78	49	71	41	77	52	82	30	76	52	85	47	78	57
14	72	28	69	30	75	29	89	41	80	.....	85	44	87	50	74	51	70	30	75	52	80	27	70	47	74	43	74	50
15	75	23	71	32	79	36	89	41	84	.....	87	52	86	58	76	37	75	40	78	46	76	25	75	39	86	41	81	57
16	74	27	72	32	76	36	84	39	83	.....	85	46	85	58	80	40	73	34	79	44	81	20	79	43	87	42	80	54
17	65	29	67	28	65	32	80	36	67	.....	76	39	60	45	70	43	63	28	72	42	75	18	80	45	68	36	60	46
18	63	16	64	20	68	25	78	33	71	.....	69	33	78	47	70	34	58	25	71	35	73	19	69	38	71	26	64	42
19	67	18	64	23	72	29	79	33	80	.....	77	33	76	45	78	32	69	25	79	34	71	16	73	40	82	28	70	44
20	67	19	65	22	74	30	76	33	77	.....	76	34	76	48	75	38	65	35	78	34	69	15	76	42	77	28	71	46
21	78	19	72	29	76	29	78	36	85	.....	85	35	75	48	78	30	78	28	79	37	71	18	77	39	87	28	82	47
22	63	42	67	36	67	48	86	33	80	60	84	53	74	46	78	50	73	40	75	44	80	17	69	37	76	50	69	54
23	70	25	65	28	72	36	75	42	80	45	74	41	74	47	78	43	71	30	75	45	72	18	69	40	75	38	68	51
24	76	29	66	32	72	39	78	40	79	43	80	46	75	49	77	41	67	34	76	43	76	16	72	40	75	40	76	52
25	74	29	70	37	73	46	77	44	82	47	80	47	75	52	80	40	70	40	75	40	66	20	75	39	80	42	76	54
26	72	28	71	45	78	53	85	50	80	58	80	61	82	60	75	50	74	42	76	48	70	21	74	50	86	53	80	61
27	66	29	67	44	75	45	77	52	78	53	89	54	80	56	75	50	59	31	74	46	72	19	70	45	78	53	77	56
28	65	22	62	34	68	31	78	37	76	37	71	39	79	58	66	45	59	30	68	41	75	16	67	45	57	45	66	46
29	65	21	58	30	60	30	77	36	68	59	59	44	64	52	65	50	60	28	57	47	69	15	56	43	57	45	60	51
30	68	40	56	40	59	47	75	33	67	50	64	48	72	54	74	43	59	45	60	46	72	19	50	40	73	51	60	51
Mns..	73.7[a]	29.6[a]	69.5	34.6	74.5	40.0	85.6	44.4	80.2	.....	82.4	48.6	82.0	53.0	77.1	42.7	70.5	36.6	76.0	44.1	76.8	23.8	74.1	41.9	80.0	41.9	75.5	53.9

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1911.

DISTRICT No. 11, CALIFORNIA.

Prof. ALEXANDER G. McADIE, District Editor.

GENERAL SUMMARY.

September, 1911, was cool. The mean temperature for the State as a whole was the lowest since records have been kept. In fact it was nearly 2° cooler than September, 1900, a phenomenally cool month. It was 3° cooler than September last year. It was also a dry month, although not so dry as some Septembers have been. The total precipitation was less than half that of last September.

The cause of the cool weather is not clearly understood; but it may be noted that both the spring and summer have been marked by continued cool weather. There has been considerable cloudiness and more than the usual amount of fog along the coast; but in the interior the weather has been clear and pleasant and without the usual hot periods. The one noticeable feature of pressure distribution has been the succession of low areas over the Great Basin and the comparative absence of high areas over the northern half of the Pacific Slope.

There were no special features of importance in the general character of the weather. There was a succession of fair days with moderate temperatures until September 11, when there was a marked increase in cloudiness and light showers occurred in the northern counties. The unsettled weather lasted for about 48 hours. On September 21 a storm of the Sonora type appeared over Arizona. The area of cloudiness extended westward and light showers occurred in the raisin belt of the San Joaquin Valley. On September 24 cloudiness was general throughout the State, and on the 25th moderate thunderstorms were recorded in the Sacramento Valley and in the Sierra.

The most important feature of the month's weather was the Sonora storm of September 28, 29, and 30. On the night of the 28th the temperature fell 16° in the San Joaquin Valley and rose 8° in the Sacramento Valley. A disturbance over the Valley of the Colorado moved northwestward, and by the morning of the 29th over 1 inch of rain had fallen at various points in the San Gabriel Valley. The rain at Los Angeles amounted to 1.23 inches, the greatest fall for any September of record for that station, the largest quantity hitherto recorded being 1.22 inches September, 1908. At Pasadena the rainfall amounted to 1.82 inches.

The bean crop of Ventura, Orange, and adjoining counties was damaged to some extent. The value of this crop is estimated at $5,000.000. The first rain of the season in the raisin belt of the San Joaquin Valley fell on the morning of the 29th. Most of the raisin crop was stacked, however, and comparatively little damage was done. Ample warnings were given by the Weather Bureau.

TEMPERATURE.

The mean temperature for the State was 63.9°, or 2.8° below the normal, making the month as above stated the coldest month on record, i. e., the coldest since 1897. Only twice in this period of 15 years has the September mean temperature been below 66°.

The following table gives the means and departures for each September from 1897 to 1911, inclusive:

Year.	Mean.	Departure.	Year.	Mean.	Departure.
	°F.	°F.		°F.	°F.
1897	67.7	+1.0	1905	68.6	+1.9
1898	69.2	+2.5	1906	68.6	+1.9
1899	70.9	+4.2	1907	65.6	−1.1
1900	65.4	−1.3	1908	68.1	+1.4
1901	66.0	−0.7	1909	68.2	+1.5
1902	70.7	+4.0	1910	67.3	+0.6
1903	68.7	+2.0	1911	63.9	−2.8
1904	70.3	+3.6			

The highest temperature reported at any station was 112° at Blythe on the 2d. This was 7° lower than the highest temperature recorded during September, 1910. The lowest temperature during the month was 17° at Alturas on the 18th. This was 2° lower than the lowest recorded during the preceding September. The highest monthly mean was 87.9° at Bagdad, whereas the highest monthly mean for the same month during the preceding year was 93° at Mammoth Tank. The lowest monthly mean was 45.6° at Tamarack.

PRECIPITATION.

September, 1911, was a dry month. While by no means the driest September on record, it was much drier than any September for several seasons back. The rainfall was in the nature of afternoon and night showers along the northern coast and heavy night showers at the close of the month in southern California. Except for the last three days, the month would have been very dry. Even with the heavy showers of the 28th, the average monthly precipitation was only 0.31 of an inch, or 0.19 of an inch below the normal. The month differed considerably from September, 1910, although in that month also there were heavy showers in the southern counties, especially Ventura and Santa Barbara. Last year, however, phenomenally heavy rains fell in the San Joaquin counties. The rainfall at Fresno, for example, being the heaviest in 23 years.

The following table gives the average and departure from the normal for each September from 1897 to 1911, inclusive:

Year.	Mean.	Departure.	Year.	Mean.	Departure.
	Inches.	Inches.		Inches.	Inches.
1897	0.03	−0.47	1905	0.16	−0.34
1898	.64	+ .14	1906	.25	− .25
1899	.03	− .47	1907	.13	− .37
1900	.22	− .28	1908	.49	− .01
1901	.94	+ .44	1909	.52	+ .02
1902	.01	− .49	1910	.69	+ .19
1903	.10	− .40	1911	.31	− .19
1904	2.66	+2.16			

The greatest monthly rainfall was 3.66 inches at Rialto. Last year the greatest monthly amount was 4.15 inches, at Ozena. There was no rainfall at many stations.

Nearly 25 per cent of the stations reporting were without rain. The heaviest 24-hour rainfall was 2.59 inches, at Squirrel Inn.

SNOWFALL.

The month was practically without snow. It is not unusual to have some snow flurries and light falls during September; but the present month was without snow, except at the higher elevations.

SUNSHINE.

The following table gives the total hours of sunshine and percentages of possible:

Stations.	Hours.	Percentage of possible.	Stations.	Hours.	Percentage of possible.
Eureka	180	48	Sacramento	321	86
Fresno	305	82	San Diego	282	76
Los Angeles	292	79	San Francisco	222	59
Mount Tamalpais	297	80	San Jose	312	84
Red Bluff	321	86	San Luis Obispo	270	73

NOTES ON THE RIVERS OF THE SACRAMENTO AND SAN JOAQUIN WATERSHEDS FOR SEPTEMBER, 1911.

By N. R. TAYLOR, Local Forecaster.

SACRAMENTO WATERSHED.

There was little departure from the low stages that usually occur in this watershed during the month, although the run-off of all streams was somewhat above that of the corresponding month of 1910. At Sacramento the lowest stages of the month, 5.5 feet, occurred from the 13th to 17th, inclusive; after the last-named date the effect of the tides was noted in the river for some distance above the mouth of the American.

The rainfall was deficient generally, light showers having occurred only in the upper Sacramento Valley and in the Feather-Yuba territory, and in no case was the rainfall sufficient to appreciably affect the run-off.

Sand bars formed in the river in the vicinity of Sacramento at various times during the month, causing the grounding of some of the smaller craft, but there were few prolonged interruptions to navigation.

SAN JOAQUIN WATERSHED.

Light showers occurred during the month at most of the river stations in this watershed, but only in the upper reaches of the Tuolumne, Stanislaus, Mokelumne, and Cosumnes Rivers was there a measurable amount of rainfall. All watercourses in the San Joaquin Valley carried considerably more water than for any September during the past three or four years. This was notably so in the San Joaquin above the mouth of the Merced, and in the Stanislaus and Merced Rivers, which showed the greatest September discharges of which there is record.

WEATHER IN THE SAN JOAQUIN VALLEY.

By W. E. BONNETT, Local Forecaster.

September was a cool month, with the mean 4.5° below the normal. A maximum of 99° was recorded on the 1st, and the temperature rose above 90° on eight days. On a number of dates it was not above 80°. This is an unusual condition for September, and unfavorable for fruit drying.

Traces of rain fell on the 21st and 28th, and 0.01 inch was recorded on the 29th. The normal monthly rainfall is 0.27 inch.

The month as a whole was unfavorable for raisin curing, the chief agricultural interest at this season. A setback given to the grapes in the spring by frost and unusually cool weather in August and September delayed the ripening season two weeks. There has been none of the warm weather that normally occurs in September and which is counted upon for proper raisin curing. Picking in average seasons is completed during the first 10 days of the month, but this year a great many first-crop grapes were not picked on the 20th. From the 20th to the close of the month drying conditions were most unfavorable. Cloudy, threatening days alternated with clear days, but conditions did not warrant complete unstacking at any time after the 20th and what drying weather occurred during that time was lost.

VARIATION OF RAINFALL WITH ALTITUDE.

By A. G. MCADIE.

Through the courtesy of Mr. J. Crawford, superintendent of San Joaquin Light and Power Corporation, records of rainfall at four stations near Fresno, for the seasonal years 1909–10 and 1910–11, have been sent to the editor for discussion.

The stations are:

	Feet.
1. Fresno, elevation	230
2. San Joaquin power house, elevation	1,013
3. Reservoir No. 1, elevation	2,441
4. C. V. Dam, elevation	3,500

The monthly amounts recorded are:

Months.	Season 1909–10.				Season 1910–11.			
	1	2	3	4	1	2	3	4
September				0.09	1.00	1.56	1.50	2.80
October	0.72	1.52	1.72	2.28	.45	1.65	1.77	1.92
November	2.79	6.73	6.89	7.52	.24	1.05	1.21	1.22
December	4.50	9.03	10.24	17.10	.21	1.63	1.50	1.83
January	1.22	4.25	3.64	6.24	4.23	16.23	15.51	27.70
February	.21	.35	.48	1.35	1.14	3.57	3.24	4.65
March	1.28	2.03	2.09	2.84	3.30	9.32	8.97	14.26
April	.27	1.07	1.18	1.77	1.03	2.56	2.70	5.68
May				.10	.22	.51	.62	.86
June								.12
July								
August								
Total	10.99	24.98	26.24	39.29	11.82	38.08	37.02	61.04

Combining the records and taking a mean we have an annual precipitation as follows:

230 feet, 11.40 inches.
1,013 feet, 31.53 inches.
2,441 feet, 31.63 inches.
3,500 feet, 50.16 inches.

or a gradient of 1.18 inches per 100 feet. It will be noted that for some reason not now apparent there is a very small increase between 1,013 feet and 2.441 feet, or, in other words, in this locality the increase is at the rate of 2.58 inches per 100 feet up to 1,000 feet.

In the July number of the Monthly Weather Review Mr. Charles Lee gives numerous diagrams showing the rate of increase of precipitation with elevation in various parts of California. Three sections of the Sierra are charted, the first known as the Central Pacific group, extending from Sacramento to Truckee; second, the Mokelumne section, extending from Stockton to Carson Lake, about 50 miles south of the first group, and third, the Tuolumne group, extending from Merced to the southern end of Walker Lake. The Fresno section then would constitute a fourth group, one still farther south. From all of them it appears that there is a definite increase in precipitation with elevation up to 5,000 feet, decreasing steadily above this. The average rate of increase is 8.5 inches per 1,000 feet up to 5,000 feet.

TABLE 1.—*Climatological data for September, 1911. District No. 11, California.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oregon.																				
Klamath Agency	Klamath	4,169	3	48.2	.....	88	1	22	9†	60	0.70	.....	0.70	0	1	18	4	8	nw.	Edson C. Watson.
Klamath Falls	....do	4,100	22																	W. H. Heileman.
Lakeview	Lake	4,825	28																	Bert Rice.
Merrill	Klamath	4,070	5	50.4	.....	81	1†	23	18	49	0.51	.....	0.27	0	2	18	5	7	.....	Mrs. Agnes Ritchson.
Yonna	....do	4,146	4	48.4	.....	82	2	16	18	57	1.49	.....	0.50	0	6	11	14	5	w.	Jacob Ruecke.
California.																				
Alameda	Alameda	.....	1	64.4m	.....	85	17	52	6†	27	0.00	.....	0.00	0	0	.....	.....	.....	.....	Chas. E. Sears.
Alturas	Modoc	4,460	7	51.8	.....	87	1	17	18	60	0.58	.....	0.49	0	5	20	8	2	sw.	Prof. C. B. Towle.
Angiola	Tulare	208	11	70.2	− 1.0	101	1†	40	26	53	0.00	− 0.09	0.00	0	0	24	0	6	w.	Santa Fe Co.
Antioch **	Contra Costa	46	32	78.0	+ 6.9	92	6	62	23	....	0.00	− 0.23	0.00	0	0	27	0	3	e.	Southern Pacific Co.
Aptos **	Santa Cruz	102	26	60.7	− 0.2	75	28	48	27	....	0.00	− 0.45	0.00	0	0	25	0	5	nw.	Do.
Arrowhead Springs	San Bernardino	2,000	2																	Dr. E. Soegnard.
Auburn	Placer	1,360	40	65.8	− 5.2	93	3†	40	6	47	0.05	− 0.43	0.05	0	1	24	0	6	ne.	Southern Pacific Co.
Avalon	Los Angeles	.....	1	64.9	.....	74	5†	55	26	16	0.58	.....	0.50	0	3	27	1	2	w.	T. S. Manning.
Azusa	....do	540	9																	A. P. Griffith.
Bagdad	San Bernardino	784	8	87.9	.....	110	1	71	11	28	0.00	.....	0.00	0	0	.....	.....	.....	.....	Santa Fe Co.
Bakersfield	Kern	404	22	71.6	− 4.2	97	1†	51	27	38	0.28	+ 0.15	0.15	0	3	.....	.....	.....	.....	Do.
Barstow	San Bernardino	2,105	8																	E. L. White.
Berkeley	Alameda	317	24	59.4	− 1.9	78	18	48	20	24	T.	− 0.52	T.	0	0	17	6	7	sw.	State University.
Biggs **	Butte	98	12	67.8	− 2.3	89	19	48	28	....	0.00	− 0.46	0.00	0	0	24	0	6	s.	Southern Pacific Co.
Bishop	Inyo	4,450	16																	W. A. Chalfant.
Bishop Creek	....do	8,500	1	50.6	.....	72	1	31	10†	34	0.00	.....	0.00	0	0	.....	.....	.....	.....	Paul E. Lodge.
Blocksburg	Humboldt	1,700	5	58.3	.....	84	1†	37	14	45	0.31	.....	0.31	0	1	17	10	3	nw.	Victor Hope.
Blue Canon	Placer	4,695	12	57.6	− 0.8	85	15	32	13	41	0.05	− 1.11	0.05	0	1	22	7	1	.....	Southern Pacific Co.
Blythe	Riverside	.....	2	81.7	.....	112	2	54	24	49	T.	.....	T.	0	0	22	4	4	sw.	D. H. Carey.
Branscomb	Mendocino	2,000	11	55.8	.....	85	19	34	5	43	0.34	− 0.98	0.32	0	2	19	7	4	n.	A. J. Haun.
Brawley	Imperial	−105	2	83.7	.....	110	3	60†	18	41	0.00	.....	0.00	0	0	.....	.....	.....	.....	M. D. Witter.
Brush Creek	Butte	2,140	7	60.5	.....	96	3	30	9	54	0.88	.....	0.57	0	2	26	0	4	s.	Cal. Gas & Elec. Co.
Burney	Shasta	3,300	1	52.7	.....	84	1†	24	18	55	0.19	.....	0.19	0	1	17	11	2	sw.	Mrs. M. D. Chambers.
Calexico	Imperial	0	6	84.9	.....	108	2	58	6	41	0.00	.....	0.00	0	0	24	0	6	se.	J. E. Peck.
Caliente **	Kern	1,290	35	68.4	− 6.6	93	2	56	8†	....	0.99	+ 0.91	0.89	0	2	17	0	13	.....	Southern Pacific Co.
Calistoga **	Napa	363	39	56.5	−10.2	85	4†	33	30	....	0.00	− 0.36	0.00	0	0	28	0	2	.....	Do.
Campbell	Santa Clara	217	14	59.2	− 3.2	85	7†	36	19	47	T.	− 0.43	T.	0	0	21	6	3	nw.	F. M. Righter.
Camptonville (near)	Yuba	3,500	4	65.2	.....	100	20	38	27	44	0.51	.....	0.32	0	2	19	9	2	.....	Cal. Gas & Elec. Co.
Cedarville	Modoc	4,675	17	55.0	− 3.6	85	1	29	27	43	0.45	+ 0.03	0.28	0	3	18	12	0	sw.	T. H. Johnstone.
Chico	Butte	189	41	66.6	− 8.0	93	1	42	13†	46	0.12	− 0.35	0.12	0	1	28	1	1	s.	G. H. Stephenson.
China Flat	Humboldt	600	2	63.2	.....	96	1	37	18	48	0.58	.....	0.33	0	4	18	6	6	w.	O. J. Westerburg.
Chino **	San Bernardino	714	19	71.1	− 0.1	91	1	50	27	....	1.11	+ 1.07	0.62	0	2	24	0	6	e.	Southern Pacific Co.
Cisco **	Placer	5,939	40	56.5	+ 0.8	79	1†	36	28	....	0.00	− 0.38	0.00	0	0	22	1	7	.....	Do.
Claremont	Los Angeles	1,200	19	70.0	+ 0.8	98	1	46	26†	42	1.05	+ 0.94	0.55	0	2	19	8	3	w.	F. P. Brackett.
Cloverdale	Sonoma	340	8	63.0	.....	92	21	57	15	50	0.04	− 0.83	0.04	0	1	24	1	5	nw.	John O. Ogle.
Colfax	Placer	2,421	40	61.0	− 8.5	87	2	42	10†	36	0.00	− 0.53	0.00	0	0	25	0	5	.....	Southern Pacific Co.
Colusa	Colusa	60	8	64.8	.....	86	7	44	28	37	0.01	− 0.58	0.01	0	1	27	2	1	.....	C. D. McCormish.
Corning **	Tehama	277	25	71.9	− 2.0	96	2	51	26†	....	0.30	+ 0.09	0.30	0	1	17	11	2	s.	Southern Pacific Co.
Cuyamaca	San Diego	4,677	12	64.3	+ 5.3	89	1	42	6	32	0.29	− 0.17	0.18	0	4	6	18	6	e.	Mrs. C. Macquarie.
Daunt	Tulare	4,000	4	57.0	.....	95	1	30	26†	45	0.06	.....	0.06	0	1	26	0	4	.....	D. L. Wishon.
Davisville	Yolo	51	39	63.4	− 8.6	93	19	38	13†	55	0.00	− 0.21	0.00	0	0	24	5	1	sw.	S. H. Beckitt.
Deer Creek	Nevada	3,700	4	54.0	.....	85	1†	30	27†	45	0.21	.....	0.17	0	2	27	2	1	w.	Cal. Gas & Elec. Co.
Del Monte	Monterey	.....	.....	64.3	.....	74	17†	49	27	22	0.00	.....	0.00	0	0	24	0	6	n.	H. R. Warner.
Delta	Shasta	1,138	26	65.2	− 4.1	90	3†	42	22	44	0.62	− 0.38	0.25	0	3	27	0	3	s.	Southern Pacific Co.
Denair	Stanislaus	126	11	65.2	− 5.8	91	20	42	26†	45	0.00	− 0.16	0.00	0	0	30	0	0	.....	Santa Fe Co.
Dobbins	Yuba	1,650	7	67.5	.....	92	1	46	27	36	0.24	.....	0.15	0	2	21	8	1	s.	Cal. Gas & Elec. Co.
Dudleys	Mariposa	3,000	2	56.4	.....	86	1	29	26†	49	0.03	.....	0.03	0	1	23	1	6	nw.	W. H. Dudley.
Dunnigan **	Yolo	65	34	74.3	− 0.3	90	1	55	25	....	T.	− 0.36	T.	0	0	28	1	1	n.	Southern Pacific Co.
Dunsmuir **	Siskiyou	2,285	22																	Do.
Durham	Butte	160	16	67.2	− 0.9	93	20	43	28	44	0.31	− 0.20	0.21	0	2	24	5	1	s.	R. W. Durham.
El Cajon	San Diego	482	12	69.0	0.0	94	16	43	7†	44	0.46	+ 0.34	0.26	0	3	28	0	2	sw.	H. H. Kessler.
Electra	Amador	725	7	67.7	.....	96	1	42	27	46	0.05	.....	0.05	0	1	24	0	6	.....	Cal. Gas & Elec. Co.
Elsinore	Riverside	1,234	16	70.0	− 4.2	105	1	40	9	54	0.58	+ 0.50	0.35	0	2	18	9	3	w.	A. F. Schult.
Emigrant Gap	Placer	5,230	37	57.0	− 2.0	82	1	34	30	34	0.40	+ 0.08	0.40	0	1	20	4	6	.....	Southern Pacific Co.
Escondido	San Diego	657	17	68.2	− 0.8	95	1	41	18	48	0.02	0.00	0.02	0	1	3	26	1	w.	A. R. Moon.
Eureka	Humboldt	64	25	55.0	+ 0.1	66	15	44	23	16	0.29	− 1.09	0.09	0	9	6	15	9	n.	U. S. Weather Bureau.
Farmington **	San Joaquin	111	32	71.0	− 1.0	90	2†	50	23	....	0.05	− 0.16	0.05	0	1	24	4	2	nw.	Southern Pacific Co.
Folsom	Sacramento	252	39																	F. O. Hutton.
Fordyce Dam	Nevada	6,500	16	47.2	.....	70	1†	28	19†	37	0.55	− 1.18	0.55	0	1	12	16	2	sw.	E. E. Roening.
Fouts Springs	Colusa	1,650	7	60.9	.....	96	1	33	26	51	T.	.....	T.	0	0	.....	.....	.....	.....	A. J. Burgi.
Fresno	Fresno	293	24	69.8	− 4.5	99	1	48	26	39	0.01	− 0.18	0.01	0	1	24	4	2	w.	U. S. Weather Bureau.
Fruto **	Glenn	624	22	67.3	− 5.0	90	1†	47	26	....	0.30	− 0.10	0.30	0	1	28	0	2	s.	Southern Pacific Co.
Galt **	Sacramento	49	33	70.0	− 2.0	91	15†	50	21	....	T.	− 0.26	T.	0	0	23	3	4	w.	Do.
Georgetown	El Dorado	2,650	38	63.2	− 9.8	87	20	41	5†	36	0.01	− 0.69	0.01	0	1	26	0	4	sw.	H. D. Jerrett.
Gilroy **	Santa Clara	193	37																	Southern Pacific Co.
Gilta	Siskiyou	3,300	1	57.3	.....	87	20	37	17†	40	0.43	.....	0.32	0	3	18	5	7	e.	A. Dannenbrink.
Glennville	Kern	5,500	1																	C. H. Likely.
Gold Run	Placer	3,222	12	64.2	− 5.1	89	1	41	26	30	0.15	− 0.75	0.15	0	1	23	6	1	.....	Southern Pacific Co.
Gonzales **	Monterey	127	12	63.1	+ 2.0	85	22†	47	16	....	0.00	− 0.15	0.00	0	0	30	0	0	s.	Do.
Grass Valley	Nevada	2,690	39	60.2	.....	87	9	39	26	41	0.19	− 0.65	0.10	0	2	20	8	2	sw.	F. R. Hull.
Greenville	Plumas	3,600	17	55.0	− 1.7	92	22	26	17†	61	0.37	− 0.88	0.20	0	3	19	6	5	sw.	C. H. Higbie.
Groveland	Tuolumne	2,828	2	60.5	.....	87	1	35	26	38	0.12	.....	0.08	0	2	23	7	0	.....	H. S. Richardson.
Guinda **	Yolo	350	13	75.7	+ 1.8	91	8	60	28	....	0.00	− 0.55	0.00	0	0	17	12	1	nw.	Southern Pacific Co.
Hanford	Kings	249	11	64.6	− 6.3	92	1	41	26	44	0.02	− 0.48	0.02	0	1	25	2	3	.....	Santa Fe Co.
Healdsburg	Sonoma	110	18	64.0	+ 1.2	94	18	37	19	54	T.	− 0.86	T.	0	0	21	9	0	s.	F. J. Kinley.
Hearst	Mendocino	1,800	1	60.8	.....	91	19	36	23	52	0.30	.....	0.30	0	1	24	4	2	nw.	H. D. Ellmaker.
Heber	Imperial	− 20	5	84.0	.....	110	2	55	6†	46	0.00	.....	0.00	0	0	17	12	1	se.	C. J. Booth.
Hetch Hetchy	Tuolumne	3,665	.....	59.8	.....	91	1	32	26†	50	0.39	.....	0.25	0	3	22	3	5	nw.	E. W. Brown.
Hollister	San Benito	284	37	61.6	− 4.0	88	17	42	19†	45	0.03	− 0.09	0.03	0	1	21	6	3	w.	J. N. Thompson.
Hornbrook **	Siskiyou	2,154	23	57.0	− 8.0	73	24†	36	28	....	0.17	− 0.05	0.09	0	2	24	0	6	.....	Southern Pacific Co.
Hot Springs	Tulare	3,300	4	62.8	.....	88	1	38	30	35	0.40	.....	0.39	0	2	23	3	4	w.	U. S. Forest Service.
Hullville (near)	Lake	2,250	4	60.6	.....	90	20	38	13	42	0.18	.....	0.17	0	2	9	20	1	sw.	T. H. Betterton.
Idyllwild	Riverside	5,250	10	57.5	− 5.0	87	2	35	22†	45	0.80	+ 0.28	0.45	0	3	25	2	3	sw.	Earl Powers.
Independence	Inyo	3,907	15																	U. S. Weather Bureau.
Indio	Riverside	− 20	33	85.4	− 1.1	110	1†	61	17	42	0.34	+ 0.23	0.26	0	2	23	6	1	sw.	F. N. Johnson.
Inskip	Butte	4,975	4	55.0	.....	76	1†	36	26†	28	0.75	.....	0.38	0	2	11	15	4	.....	Cal. Gas & Elec. Co.
Ione **	Amador	287	33	68.8	− 2.8	98	1	44	28	....	T.	− 0.28	T.	0	0	22	0	8	sw.	Southern Pacific Co.
Jamestown	Tuolumne	1,471	8	63.4	.....	93	1	39	27	44	0.10	.....	0.10	0	1	26	0	4	s.	Sierra Railway Co.

TABLE 1.—*Climatological data for September, 1911. District No. 11*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
California—Continued.																				
King City	Monterey	333	24	63.0	− 3.0	96	3	32	30	58	0.00	− 0.21	0.00	0	0	24	0	6	.....	Southern Pacific Co.
Lake Eleanor	Tuolumne	4,700	1	55.9	.....	84	1	30	26†	45	0.28	.....	0.15	0	3	23	1	6	se.	O. J. Todd.
La Porte	Plumas	5,000	17	51.0	− 2.3	75	1†	23	27	46	T.	− 2.09	T.	0	0	18	6	6	n.	Chas. W. Hendel.
Le Grand	Merced	255	11	65.2	− 6.6	99	1	40	30	45	0.00	− 0.42	0.00	0	0	26	0	4	.....	Santa Fe Co.
Lemon Cove	Tulare	600	16	72.0	− 2.4	101	1	45	22	45	0.03	− 0.42	0.03	0	1	23	0	7	w.	G. W. Sandidge.
Lick Observatory	Santa Clara	4,209	22	56.0	− 5.9	77	20	37	25†	24	0.00	− 0.34	0.00	0	0	23	4	3	nw.	The Director.
Livermore	Alameda	485	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. G. Still.
Lodi	San Joaquin	45	29	63.2	− 6.5	87	20	42	19†	43	0.03	− 0.43	0.03	0	1	27	1	2	w.	Ezra Fiske.
Lone Pine	Inyo	2,728	6	65.6	.....	94	1	39	28	45	0.60	.....	0.60	0	1	27	2	1	s.	G. F. Marsh.
Long Valley	Lassen	4,400	2	55.7	.....	86	1	29	28	45	0.13	.....	0.13	0	1	14	9	7	sw.	A. G. Evans.
Los Angeles	Los Angeles	293	34	68.2	+ 1.7	86	13	52	15	30	1.23	+ 1.15	1.23	0	2	14	13	3	sw.	U. S. Weather Bureau.
Los Banos**	Merced	121	24	70.7	− 3.3	91	2	54	27	....	0.00	− 0.13	0.00	0	0	18	0	12	w.	Southern Pacific Co.
Los Gatos	Santa Clara	600	24	63.3	− 2.3	89	7	45	10†	40	T.	− 0.37	T.	0	0	20	7	3	n.	F. H. McCullagh.
McCloud	Siskiyou	3,410	1	52.4	.....	77	1	31	11†	41	0.59	.....	0.50	0	2	14	15	1	s.	F. F. Spencer.
Macdoel	....do	4,258	4	49.0	.....	79	1†	20	16	52	0.00	.....	0.00	0	0	15	6	9	n.	Butte Valley L. Co.
Madeline	Lassen	5,270	2	49.0	.....	80	19	19	18	54	0.25	.....	0.23	0	2	15	4	11	sw.	J. H. Williams.
Magalia	Butte	2,321	7	64.0	.....	90	1	38	30	46	0.68	.....	0.68	0	1	23	5	2	se.	Butte Co. R. R. Co.
Mammoth Tank	Imperial	257	33	85.4	− 4.6	110	1	63	6†	37	0.00	− 0.05	0.00	0	0	22	2	6	w.	Southern Pacific Co.
Marysville	Yuba	67	40	66.6	− 7.4	92	8	44	19†	46	T.	− 0.29	T.	0	0	27	0	3	s.	Do.
Mecca	Riverside	− 185	5	83.3	.....	109	24	58	9†	42	T.	.....	T.	0	0	17	10	3	e.	E. A. Palmer.
Menlo Park**	San Mateo	64	33	60.5	− 3.6	79	7	48	22	....	0.00	− 0.28	0.00	0	0	20	5	5	.....	Southern Pacific Co.
Merced	Merced	173	37	68.2	− 5.5	88	8	54	26	27	0.00	− 0.18	0.00	0	0	27	0	3	nw.	Santa Fe Co.
Mill Creek (1)	Amador	.....	4	58.0	.....	85	1	38	26†	39	0.26	.....	0.26	0	1	23	1	6	n.	Cal. Gas & Elec. Co.
Milton (near)	Calaveras	660	20	68.0	− 3.5	91	20	50	5†	33	0.10	− 0.32	0.10	0	1	25	3	•2	nw.	J. H. Southwick.
Modesto**	Stanislaus	90	39	78.1	+ 3.4	90	3†	65	1†	....	0.00	− 0.19	0.00	0	0	31	0	0	.....	Southern Pacific Co.
Mojave	Kern	2,751	34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.
Mokelumne Hill	Calaveras	1,550	18	66.2	+ 0.4	87	1†	45	5†	34	0.11	− 0.43	0.11	0	1	23	2	5	.....	C. E. Prindle.
Mono Ranch	Ventura	3,210	5	60.8	.....	92	1	34	27	50	0.49	.....	0.26	0	2	19	9	2	w.	Herbert Lathrop.
Montague	Siskiyou	2,450	23	57.2	−11.3	90	1	30	18†	50	0.37	+ 0.15	0.18	0	4	11	13	6	n.	I. E. Deboy.
Monterey**	Monterey	15	46	59.1	− 2.4	70	8†	48	29†	....	0.00	− 0.18	0.10	0	0	30	0	0	sw.	Southern Pacific Co.
Monterio	Kern	4,500	12	70.5	+ 0.5	92	16	44	30	34	1.00	+ 0.79	1.00	0	1	22	6	2	nw.	John C. Knecht.
Mount Tamalpais	Marin	2,375	12	59.9	− 6.2	82	20	43	23	24	T.	− 0.52	T.	0	0	22	5	3	nw.	U. S. Weather Bureau.
Napa City	Napa	20	34	59.2	− 4.4	88	18	38	30	47	0.00	− 0.56	0.00	0	0	18	12	0	sw.	Alex. Hull.
Napa (S. H.)	....do	60	33	60.2	− 3.4	86	17	42	10	40	0.00	− 0.57	0.00	0	0	20	6	4	sw.	W. H. Martin.
Needles	San Bernardino	477	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Santa Fe Co.
Nellie	San Diego	5,350	2	61.2	.....	89	1	32	7	43	0.76	.....	0.76	0	1	26	0	4	.....	T. O. Bailey.
Nevada City	Nevada	2,580	19	59.2	− 1.4	93	1	32	27	53	0.22	− 0.51	0.12	0	2	18	7	5	s.	S. W. Marsh.
Newcastle	Placer	970	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. D. Kellogg.
Newhall**	Los Angeles	1,200	34	68.5	− 3.0	100	1	55	28†	....	0.38	+ 0.32	0.38	0	1	27	0	3	se.	Southern Pacific Co.
Newman	Stanislaus	91	22	72.0	− 2.2	94	1	54	22†	31	0.00	− 0.26	0.00	0	0	26	0	4	n.	E. S. Wangenheim.
Nimshew	Butte	2,500	7	59.6	.....	83	1	41	27	38	0.60	.....	0.32	0	2	20	7	3	.....	Cal. Gas. & Elec. Co.
North Bloomfield	Nevada	3,200	14	62.2	− 1.6	89	1	39	22	41	T.	− 0.90	T.	0	0	17	7	6	s.	J. R. McIntosh.
North Fork	Madera	3,000	7	63.3	.....	94	1	39	5	45	0.35	.....	0.30	0	2	16	10	4	w.	U. S. Forest Service.
Oakdale**	Stanislaus	156	17	67.0	− 4.4	92	20	50	26	....	0.00	− 0.14	0.00	0	0	22	0	8	nw.	Southern Pacific Co.
Oak Grove	San Diego	.....	1	64.8	.....	102	1	37	6	47	0.94	.....	0.41	0	3	17	9	4	nw.	U. S. Forest Service.
Oakland	Alameda	36	35	61.0	− 0.2	79	18	48	20	27	0.01	− 0.37	0.01	0	1	20	5	5	w.	Cabot Observatory.
Oceanside	San Diego	.....	1	65.6	.....	78	1	53	6†	24	0.23	.....	0.14	0	3	14	13	3	w.	H. D. Brodie.
Ojai Valley	Ventura	900	5	66.0	.....	101	1	38	27	51	0.28	.....	0.20	0	2	24	5	1	sw.	W. H. Duncan.
Orland	Glenn	254	29	68.3	− 8.4	94	7	43	25	43	0.52	+ 0.17	0.44	0	3	22	5	3	se.	U. S. Reclamation Serv.
Orleans	Humboldt	520	8	68.0	.....	100	1	39	18	54	0.68	.....	0.60	0	4	24	0	6	.....	F. T. Hale.
Oroville (near)	Butte	250	27	67.4	− 6.4	90	1†	45	28	43	0.11	− 0.57	0.07	0	2	20	5	5	s.	E. D. Fairchild.
Palermo	....do	213	20	65.0	− 5.0	93	2	41	12†	44	T.	− 0.80	T.	0	0	20	7	3	s.	Western Pacific Co.
Palm Springs**	Riverside	584	22	82.8	− 2.4	110	1	70	5†	....	0.20	+ 0.15	0.20	0	1	22	5	3	w.	Southern Pacific Co.
Pasadena	Los Angeles	827	21	65.6	− 4.0	92	16	41	27	46	1.81	+ 1.66	1.76	0	2	25	3	2	sw.	E. D. Sorver.
Paso Robles	San Luis Obispo	800	24	64.4	− 2.5	104	1	32	26	63	0.04	− 0.13	0.02	0	2	26	1	3	nw.	Dr. F. W. Sawyer.
Peachland	Sonoma	190	15	60.3	− 2.9	91	18	36	10†	51	0.01	− 0.35	0.01	0	1	22	6	2	sw.	E. H. Parnell.
Penstock Camp	Tuolumne	3,750	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tuolumne Water Pr. Co.
Placerville	El Dorado	1,875	22	58.6	− 4.2	84	1	36	28	40	0.14	− 0.48	0.14	0	1	24	0	6	.....	A. Baring-Gould.
Point Lobos	San Francisco	250	18	58.2	+ 0.6	78	18	49	19†	22	T.	− 0.57	T.	0	0	16	9	5	nw.	John Hyslop.
Point Reyes	Marin	490	19	55.2	− 0.9	71	18	47	20	19	T.	− 0.92	T.	0	0	13	10	7	nw.	U. S. Weather Bureau.
Porterville	Tulare	464	22	71.4	− 4.9	100	1	41	30	53	0.23	+ 0.02	0.20	0	2	21	5	4	.....	Leslie McAuliff.
Quincy	Plumas	3,400	16	53.2	− 3.8	83	3	25	18	51	2.35	+ 1.02	2.00	0	2	24	3	3	sw.	U. S. Forest Service.
Red Bluff	Tehama	307	34	67.6	− 6.3	91	20	48	26	34	0.65	− 0.02	0.61	0	2	22	6	2	se.	U. S. Weather Bureau.
Redding	Shasta	552	35	68.6	− 5.4	91	1†	49	11†	34	0.54	− 0.13	0.34	0	2	14	4	12	n.	E. J. Bassett.
Redlands	San Bernardino	1,352	18	71.2	− 0.9	102	1	47	9	42	1.03	+ 0.66	0.69	0	3	20	6	4	w.	P. W. Moore.
Reedley	Fresno	347	11	68.3	− 3.8	95	1	35	8	57	0.00	− 0.89	0.00	0	0	27	0	3	n.	Santa Fe Co.
Rialto (near)	San Bernardino	2,250	5	70.1	.....	98	1	49	6	34	3.66	.....	1.83	0	3	14	11	5	se.	S. Calif. Edison Co.
Riverside	Riverside	851	29	70.2	− 1.9	102	1	43	9†	54	0.75	+ 0.62	0.59	0	3	14	14	2	sw.	J. H. Cox.
Rocklin	Placer	249	40	70.2	− 2.5	99	4	45	11†	43	T.	− 0.18	T.	0	0	25	1	4	s.	Southern Pacific Co.
Rohnerville	Humboldt	75	8	56.9	.....	73	15	36	18	33	0.08	.....	0.07	0	2	11	13	6	nw.	Dr. R. Callahan.
Sacramento (1)	Sacramento	71	34	65.6	− 3.5	92	20	48	27	42	0.00	− 0.36	0.00	0	0	25	4	1	s.	U. S. Weather Bureau.
Sacramento (2)	....do	35	58	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. H. Gerrish.
St. Helena	Napa	255	3	63.3•	.....	94	18	38	27	51	T.	.....	T.	0	0	.....	.....	.....	.....	Frank Kettlewell.
Salinas	Monterey	40	37	65.0	+ 3.9	78	18†	43	6†	33	0.00	− 0.18	0.00	0	0	27	2	1	w.	Miss E. Ruth Abbott.
San Bernardino	San Bernardino	1,054	19	69.5	− 1.0	103	1	42	9†	52	1.47	+ 1.35	1.14	0	3	17	11	2	sw.	Dr. A. K. Johnson.
San Diego	San Diego	93	40	66.2	− 0.7	76	21	54	9	19	0.10	+ 0.04	0.09	0	2	25	2	3	nw.	U. S. Weather Bureau.
San Francisco	San Francisco	207	40	60.0	+ 0.7	82	18	49	20	30	T.	− 0.27	T.	0	0	14	11	5	w.	Do.
San Jacinto	Riverside	1,550	18	71.2	+ 0.6	103	1	43	9	48	0.50	+ 0.36	0.28	0	2	19	7	4	w.	E. T. Tanner.
San Jose	Santa Clara	95	36	60.9	− 3.8	86	7	42	28	44	0.00	− 0.20	0.00	0	0	25	3	2	nw.	U. S. Weather Bureau.
San Leandro	Alameda	48	16	59.4	− 5.0	84	17†	37	19	45	0.22	− 0.37	0.20	0	3	21	3	6	w.	Frank Jones.
San Luis Obispo	San Luis Obispo	201	16	61.6	− 0.1	86	13	43	26	38	0.02	− 0.10	0.02	0	1	20	3	7	nw.	U. S. Weather Bureau.
San Mateo**	San Mateo	22	37	65.0	+ 1.3	84	18	51	28	....	0.00	− 0.31	0.00	0	0	18	11	1	nw.	Southern Pacific Co.
San Miguel**	San Luis Obispo	616	24	69.3	+ 0.7	91	21	42	26	....	0.04	− 0.12	0.04	0	1	17	6	7	.....	Do.
San Miguel Island	Santa Barbara	500	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. G. Waters.
Sanger**	Fresno	371	22	73.6	− 1.6	85	2†	62	13	....	0.00	− 0.17	0.00	0	0	.....	.....	.....	.....	Southern Pacific Co.
Santa Barbara	Santa Barbara	130	27	63.6	− 2.1	82	13	47	26†	32	0.12	− 0.10	0.09	0	3	23	5	2	w.	G. W. Russell.
Santa Clara	Santa Clara	90	22	60.9	− 1.7	90	18	38	19†	50	0.00	− 0.24	0.00	0	0	26	1	3	nw.	Santa Clara College.
Santa Cruz	Santa Cruz	20	38	59.7	− 3.4	85	13	40	17	40	0.00	− 0.52	0.00	0	0	26	3	1	s.	W. R. Springer.
Santa Margarita**	San Luis Obispo	906	22	68.0	+ 2.1	97	14	47	20†	....	0.00	− 0.34	0.00	0	0	24	2	4	sw.	Southern Pacific Co.
Santa Maria	Santa Barbara	220	23	68.0	+ 4.0	88	7	50	21	32	T.	− 0.20	T.	0	0	27	0	3	w.	Edwin Morris.
Santa Monica	Los Angeles	110	26	59.8	− 8.0	74	17	44	16	24	0.28	+ 0.16	0.28	0	2	17	11	2	w.	N. D. Ingham.
Santa Rosa	Sonoma	181	22	60.4	− 3.8	89	18	36	19†	51	T.	− 0.40	T.	0	0	18	8	4	sw.	M. L. McDonald, jr.
Selma**	Fresno	311	25	73.2	− 4.2	94	1	57	29	....	0.00	− 0.19	0.00	0	0	21	5	4	nw.	Southern Pacific Co.
Seven Oaks	San Bernardino	5,000	1	60.2	.....	91	1	35	4	40	2.31	.....	2.31	0	1	12	14	4	w.	M. Lewis.
Shasta	Shasta	1,048	15	69.2	− 6.0	101	12	34	29	54	0.58	− 0.58	0.58	0	1	23	1	6	nw.	Dr. T. J. Edgecomb.

TABLE 1.—*Climatological data for September, 1911. District No. 11*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
California—Continued.																				
Sierra Madre	Los Angeles	1,400	14	69.6	− 0.4	99	1	50	9†	36	1.54	+ 1.13	1.54	0	1	26	0	4	.....	Mrs. A. C. Gregory.
Sierraville	Sierra	5,000	1	51.8	.....	88	2	20	18	59	0.00	.....	0.00	0	0	19	2	9	.....	C. D. Johnson.
Sisson	Siskiyou	3,555	22	53.6	− 4.6	82	2	30	17†	42	1.01	+ 0.16	0.55	0	2	23	4	3	n.	Southern Pacific Co.
Soledad **	Monterey	188	37	66.5	− 1.6	90	9	50	29	....	0.15	+ 0.07	0.15	0	1	28	0	2	n.	Do.
Southeast Farallon	San Francisco	30	8	55.6	.....	63	10	48	20	10	0.11	.....	0.10	0	2	17	7	6	nw.	U. S. Weather Bureau.
Sonora	Tuolumne	1,825	23	64.2	.....	94	1	41	27	39	0.07	− 0.66	0.07	0	1	21	8	1	w.	Chas. P. Jones.
Squirrel Inn	San Bernardino	5,280	1	61.3	.....	87	3	41	28	31	3.44	.....	2.59	0	2	25	2	3	s.	A. D. Frantz.
Stirling City	Butte	3,525	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Butte Co. R. R. Co.
Stockton (S. H.)	San Joaquin	23	40	64.3	− 4.7	88	20	46	28	38	0.29	+ 0.15	0.29	0	1	22	8	0	nw.	State Hospital.
Storey	Madera	296	11	64.3	− 7.0	96	1	36	16	53	0.00	− 0.09	0.00	0	0	26	0	4	nw.	Santa Fe Co.
Suisun **	Solano	20	31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Summerdale	Mariposa	5,270	15	57.2	− 2.8	85	1	34	4	43	0.57	− 0.78	0.29	0	3	20	6	4	.....	Mrs. J. E. Lowry.
Summit	Placer	7,017	38	47.2	− 6.5	73	1	30	11†	32	0.25	+ 0.03	0.25	T.	1	25	1	4	sw.	Southern Pacific Co.
Susanville	Lassen	4,175	22	53.9	− 7.7	80	1†	29	18	41	0.32	− 0.42	0.14	0	3	15	15	0	sw.	James Branham.
Tamarack	Alpine	8,000	5	45.6	.....	70	1	23	26	41	0.32	.....	0.24	2.0	3	22	3	5	ne.	William Bennett.
Tehachapi **	Kern	3,964	34	63.7	− 2.4	85	1	48	27†	....	0.84	+ 0.75	0.84	0	1	.....	.....	.....	.....	Southern Pacific Co.
Tehama **	Tehama	220	40	68.6	− 5.7	93	7	50	26	....	0.30	+ 0.04	0.30	0	1	23	0	7	n.	Do.
Tejon Rancho	Kern	1,500	9	64.6	.....	83	1†	46	26†	34	0.36	.....	0.36	0	2	.....	.....	.....	.....	S. E. Bailey.
Three Rivers	Tulare	870	1	67.6	.....	96	1	41	26	45	0.14	.....	0.14	0	1	21	5	4	sw.	E. D. Barton.
Towle	Placer	3,704	25	58.3	− 5.6	85	1	36	27	38	0.10	− 0.93	0.10	0	1	19	5	6	w.	Southern Pacific Co.
Tracy **	San Joaquin	64	31	72.2	+ 0.2	94	2	60	24†	....	0.00	− 0.19	0.00	0	0	18	6	6	nw.	Do.
Ukiah	Mendocino	620	18	62.9	− 2.8	97	20	34	18	60	0.01	− 0.56	0.01	0	1	20	5	5	nw.	Dr. Geo. McCowen.
Upland	San Bernardino	1,750	14	68.6	− 1.1	93	1†	46	18	44	1.48	+ 1.22	0.93	0	2	26	3	1	w.	A. P. Harwood.
Upper Lake	Lake	1,350	26	64.0	− 3.1	96	1	38	28	54	0.03	− 0.38	0.03	0	1	24	5	1	nw.	C. M. Hammond.
Vacaville	Solano	175	23	65.8	− 5.4	94	20	40	27	48	0.03	− 0.27	0.03	0	1	23	7	0	sw.	G. O. Coburn.
Valley Springs **	Calaveras	673	22	69.4	− 2.6	93	1	57	26†	....	0.06	− 0.35	0.06	0	1	20	8	2	nw.	Southern Pacific Co.
Visalia	Tulare	334	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Santa Fe Co.
Warner Springs	San Diego	3,165	3	66.5	.....	95	1	39	5†	44	0.54	.....	0.28	0	3	19	11	0	.....	Mrs. F. S. Sandford.
Wasco	Kern	336	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Santa Fe Co.
Watsonville	Santa Cruz	23	15	58.7	− 1.6	85	17	35	17	50	0.00	− 0.16	0.00	0	0	9	19	2	sw.	Spreckels Sugar Co.
Weitchpec	Humboldt	1,700	1	58.0	.....	86	1†	38	22	39	1.07	.....	0.45	0	6	22	6	2	sw.	M. E. Lathrop.
Westley **	Stanislaus	90	22	71.0	− 2.9	90	1	55	21	....	0.00	− 0.23	0.00	0	0	27	0	3	n.	Southern Pacific Co.
Wheatland	Yuba	84	24	66.9	− 3.4	87	7†	43	28	38	0.11	− 0.40	0.07	0	2	22	6	2	s.	Wm. Lumbard.
Willows	Glenn	136	32	66.2ª	− 9.4	88	20	45	11	40	0.12	− 0.09	0.10	0	2	.....	.....	.....	.....	L. C. Stiles.
Yosemite	Mariposa	3,945	7	58.2	.....	94	1	27	26	60	0.82	.....	0.50	0	3	18	0	12	n.	J. P. Kelly.

ª, ᵇ, ᵉ, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1911. District No. 11, California.*

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Oregon.																																
Klamath Agency	Klamath																									.70						0.70
Klamath Falls	do																															
Lakeview	Pitt																															
Long Valley	do																															
Merrill	Int. Drainage					.24																				.27						0.51
Yonna	do				.10	.50							T.													.32	.20	.05	.32			1.49
California.																																
Abertine	Sacramento																															
Aguanga	Coast																															
Alameda	do																															0.00
Alturas	Sacramento					.05																			.01	.49	.01	.02				0.58
Angels Camp	San Joaquin																									T.					.45	0.45
Angiola	do																															0.00
Antioch	do																															0.00
Aptos	Coast																															0.00
Arrowhead Springs	do																															
Auburn	Sacramento																										.05					0.05
Avalon	Ocean																												.04	.50	.04	0.58
Azusa	Coast																															
Bagdad	Desert																															0.00
Bakersfield	San Joaquin																					.04							.15	.09		0.28
Barstow	Desert																															
Bear River	San Joaquin																															
Bear Valley (1)	Sacramento																									.36						0.36
Bear Valley (2)	San Joaquin																					T.										T.
Bear Valley Dam	Coast																												.50	.75	1.75	3.00
Belotta	San Joaquin																										T.					T.
Ben Lomond	Coast																															0.00
Berkeley	do																									T.						T.
Biggs	Sacramento																															0.00
Bishop	Owens																															
Bishop Creek	do																															0.00
Blocksburg	Coast											T.	T.													T.	.31					0.31
Blue Canon	Sacramento																										.05					0.05
Blythe	Desert												T.																T.		T.	T.
Boulder Creek	Coast																															0.00
Bowmans Dam	Sacramento																															
Branscomb	Coast																									.32	.02					0.34
Brush Creek	Sacramento				.57																					T.	.31					0.88
Burney	do																										.19					0.19
Butte Valley	do					.20																				.08	.11			.02		0.50
Calexico	Desert																															0.00
Calistoga	Coast																															0.00
Campbell	do																					T.										T.
Campo	do																															0.00
Camptonville (near)	Sacramento																									.19	.32					0.51
Cedarville	Mountain Lakes				.10	.28																			.07		T.					0.45
Chester	Sacramento					T.	.05																			.05	.07					0.17
Chico	do																									.12						0.12
Chico (near)	do				T.																					T.						T.
China Flat	Coast				.09	T.						.08	.08													.33						0.58
Chino	do																													.49	.62	1.11
Cisco	Sacramento																															0.00
Claremont	Coast																													.55	.50	1.05
Cloverdale	do																									.04						0.04
Colfax	Sacramento																															0.00
Colgate	do																										.16					0.16
Colusa	do																									.01					T.	0.01
Corning	do																					T.				.30					T.	0.30
Corona	Coast																															
Cuyamaca	do																											.01	.08	.02	.18	0.29
Daunt	San Joaquin																					T.							T.	.06		0.06
Davisville	Sacramento																															0.00
Deer Creek	do																									.17	.04					0.21
Del Monte	Coast																															0.00
Delta	Sacramento																									.25	.25				.12	0.62
Denair	San Joaquin																															0.00
Descanso	Coast																														.23	0.23
Dinuba	San Joaquin																															0.00
Dobbins	Sacramento																									.09	.15					0.24
Downieville	do																									.42						0.42
Dudleys	San Joaquin																					T.								T.		T.
Dunnigan	Sacramento																									T.						T.
Dunsmuir	do																															
Durham	do				21																					.10						0.31
Dyerville	Coast																															
East Park	Sacramento																									.35						0.35
Edgewood	Klamath		.25				.03																									0.28
Edison	San Joaquin																					.01							.19			0.20
El Cajon	Coast																												.08	.26	.12	0.46
Electra	San Joaquin																									.05						0.05
Elsinore	Coast																												.23		.35	0.58
Emigrant Gap	Sacramento																									.40						0.40
Escondido	Coast																														.02	0.02
Eureka	do	.01	.02	.02	.01	.04				.09	.04		.04			.02																0.29
Fairmont	do																												.80			0.80
Farmington	San Joaquin																									.05						0.05
Felton	Coast																															0.00
Firebangh	San Joaquin																													T.		T.
Folsom	Sacramento																										.30					0.30
Fordyce Dam	do																									.55						0.55
Fort Bragg	Coast																													.25		0.25
Fort Ross	do																									.09	.08					0.17
Fouts Springs	Sacramento																									T.						T.
Fredalba	Coast																										.05		.97	.07	1.63	2.72
Fresno	San Joaquin																					T.							T.	.01		0.01
Fruto	Sacramento																										.30					0.30
Galt	San Joaquin																									T.						T.
Georgetown	do																										.01					0.01
Gilroy	Coast																															

TABLE 2.—*Daily precipitation for September, 1911. District No. 11*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
California—Contd.																																
Gilta	Coast												.10													.32	.01					0.43
Glendora	do																												.75	.07		0.82
Glen Ranch	do																													1.80	.92	2.72
Glennville	San Joaquin																															
Glenwood	Coast																															0.00
Gold Run	Sacramento																										.15					0.15
Gonzales	Coast																															0.00
Grass Valley	Sacramento																									.10	.09					0.19
Greenville	do				.20																					.12	.05					0.37
Gridley	do																									.22						0.22
Groveland	San Joaquin																						.08			T.				T.	.04	0.12
Guinda	Sacramento																															0.00
Hanford	San Joaquin																								.02							0.02
Head Dam	Sacramento																									.13	.21					0.34
Healdsburg	Coast												T.													T.						T.
Hearst	do																									.30						0.30
Heber	Desert																															0.00
Helen Mine	Coast																															
Hesperia	Desert																															
Hetch Hetchy	San Joaquin																					T.	.06			.08				T.	.25	0.39
Holcomb	Coast																												.06	.74	.15	1.49
Hollister	do																						.03									0.03
Hornbrook	Klamath					.08																					.09					0.17
Hot Springs	San Joaquin																					.01							.39			0.40
Hullville	Coast																									.17	.01					0.18
Idylwild	do																												.10	.45	.25	0.80
Independence	Owens																															
Indio	Desert												.26																		.08	0.34
Inskip	Sacramento				T.																					.38	.37					0.75
Ione	San Joaquin																									T.						T.
Jacksonville	do																									.09						0.09
Jamestown	do																									.10						0.10
Jenny Lind	do																															0.00
Jolon	Coast																						.03						T.			0.03
Julian	do																														.30	0.30
Kennedy Mine	San Joaquin																															0.11
Kennett	Sacramento																										.71				.10	0.85
Kentfield	Coast																										.03					0.03
Kernville	San Joaquin																															
King City	Coast																															0.00
Knights Landing	Sacramento																															T.
La Grange	San Joaquin																					.07										0.07
Lake Eleanor	do																					T.	.06			.07					.15	0.28
Lakeside	Coast																													.25	.26	0.51
La Porte	Sacramento																									T.						T.
Lathrop	San Joaquin																									T.						T.
Laurel	Coast																															0.00
Laytonville	do																									.02						0.02
Le Grand	San Joaquin																															0.00
Lemon Cove	do													T.													.03					0.03
Lick Observatory	Coast																															0.00
Livermore	do																															
Lodi	San Joaquin																									.03						0.03
Lone Pine	Owens																					T.							T.	.60		0.60
Long Camp	San Joaquin																															
Long Valley	Mountain Lakes.					.13		T.																		T.						0.13
Lordsburg	Coast																															
Los Alamos	do																					T.							T.			T.
Los Angeles	do																												.74	.49		1.23
Los Banos	San Joaquin																															0.00
Los Gatos	Coast																					T.		T.								T.
Los Molinos	Sacramento				.19																					.42						0.61
Low Observatory	Coast																												T.	2.00		2.00
McCloud	Sacramento		T.																							.09	.50					0.59
Macdoel	Klamath																															0.00
Madeline	Mountain Lakes.				T.	T.																				.23		.02				0.25
Magalia	Sacramento				T.																					.68						0.68
Mammoth Tank	Desert																															0.00
Mariposa	San Joaquin																						.04								.25	0.29
Marysville	Sacramento																									T.						T.
Mecca	Desert														T.														T.	T.	T.	T.
Melones	Sacramento																									.08						0.08
Menlo Park	Coast																															0.00
Merced	San Joaquin																															0.00
Merced Falls	do																					T.				T.						T.
Mesa Grande	Coast																												T.	.25	.48	0.73
Mill Creek (1)	San Joaquin																									.26						0.26
Mill Creek (2)	Coast																												.32	.14	.88	1.34
Mills College	do																															
Milo	San Joaquin																														.35	0.35
Milton (near)	do																									.10						0.10
Modesto	do																															0.00
Mojave	Desert																															
Mokolumne Hill	San Joaquin																									.11						0.11
Mono Ranch	Coast																					.23							.26			0.49
Monroeville	San Joaquin																															
Montague	Klamath		.03			T.							.05													.11					.18	0.37
Monterey	Coast																															0.00
Monterio	San Joaquin																												1.00			1.00
Montgomery Creek	Sacramento																										1.20					1.20
Mount Tamalpais	Coast																						T.									T.
Mount St. Helena	do																															
Napa City	do																															0.00
Napa (S. H.)	do																															0.00
Needles	Desert																															
Nellie	Coast																												T.	T.	.76	0.76
Nevada City	Sacramento																									.12	.10					0.22
Newcastle	do																															
Newhall	Coast																												.38			0.38
Newman	San Joaquin																															0.00

TABLE 2.—*Daily precipitation for September, 1911. District No. 11*—Continued.

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
California—Contd.																																
Nimshew	Sacramento																									.32	.28					0.60
North Bloomfield	do																							T.								T.
North Fork	San Joaquin																					.05								.30		0.35
North Lakeport	Coast																															0.00
Oakdale	San Joaquin																															0.00
Oakgrove	Coast																												.20	.41	.33	0.94
Oakland	do																									.01						0.01
Oakville	do																									.05						0.05
Oceanside	do																											T.	.14	.02	.07	0.23
Ojai Valley	do																					.08							.20			0.28
Orland	Sacramento																								.04	.44					.04	0.52
Orleans	Klamath				T.							.03													.60						.05	0.68
Oroville	Sacramento				.04																					.07						0.11
Ozeana	Coast																					.18							.32			0.50
Palermo	Sacramento													T.	T.						T.											T.
Palm Springs	Desert																												T.	.20		0.20
Parkfield	Coast																															0.00
Pasadena	do																												.05	1.76		1.81
Paso Robles	do																							.02						.02		0.04
Penchland	do	.01																								T.	T.				T.	0.01
Penstock Camp	San Joaquin																															
Phoenix Dam	do																									.05						0.05
Pilot Creek	Sacramento																									.06						0.06
Pinchot	Coast																															
Pine Crest	do																					.10							.03			0.13
Placerville	Sacramento																									.14						0.14
Point Lobos	Coast																									T.						T.
Point Loma	do	.01						.01						.03	T.	.01	T.				.02	T.			.02	T.			.01	.02	.12	0.25
Point Reyes	do																									T.						T.
Polasky	San Joaquin																															0.00
Porterville	do																					.03								.20		0.23
Portulaca	do																															
Prattville	Sacramento																															
Priest Valley	Coast																															0.00
Quincy	Sacramento					2.00																					.35					2.35
Red Bluff	do				.04																					.61						0.65
Redding	do																									.34	.20	T.				0.54
Redlands	Coast																										T.		.11	.23	.69	1.03
Reedley	San Joaquin																															0.00
Represa	Sacramento																															0.00
Rialto (near)	Coast																												1.83	.29	1.54	3.66
Rio Vista	Sacramento																										T.					T.
Riverside	Coast																												.12	.04	.59	0.75
Rocklin	Sacramento																									T.						T.
Rohnerville	Coast					T.				.01	T.	T.	.07													T.	T.					0.08
Sacramento (1)	Sacramento																															0.00
Sacramento (2)	do																															
St. Helena	Coast																									T.						T.
Salinas	do																															0.00
San Bernardino	do																												.18	.15	1.14	1.47
San Diego	do																													.01	.09	0.10
San Francisco	do																						T.			T.						T.
San Jacinto	do																													.22	.28	0.50
San Jose	do																															0.00
San Leandro	do	.01	.01																												.20	0.22
San Luis Obispo	do																					.02										0.02
San Mateo	do																															0.00
San Miguel	do																							.04								0.04
San Miguel Island	Ocean																															
Sanger	San Joaquin																															0.00
Santa Ana River	Coast																												.42	.29	1.47	2.18
Santa Barbara	do		.02																			.09							.01			0.12
Santa Clara	do																															0.00
Santa Cruz	do																															0.00
Santa Margarita	do																															0.00
Santa Maria	do															T.																T.
Santa Monica	do																												.08	.20		0.28
Santa Rosa	do																									T.	T.					T.
Sausalito	do																															0.00
Selma	San Joaquin																															0.00
Seven Oaks	Coast																													T.	2.31	2.31
Shasta	Sacramento																									.58						0.58
Shingle Springs	San Joaquin																															0.00
Sierra Madre	Coast																												1.54	T.		1.54
Sierraville	Mtn. Lakes																															0.00
Sisquoc Ranch	Coast																															
Sisson	Sacramento																									.46					.55	1.01
Soledad	Coast																					.15										0.15
Sonora	San Joaquin																									.07						0.07
S. E. Farallon	Ocean																			.01						T.	.10					0.11
Spreckels	Coast																															
Squirrel Inn	do																													.85	2.59	3.44
Stirling City	Sacramento																															
Stockton (S. H.)	San Joaquin																										.29					0.29
Storey	do																															0.00
Suisun	Sacramento																															
Summerdale	San Joaquin																						27							.29	.01	0.57
Summit (1)	Sacramento																									T.	.25					0.25
Summit (2)	Coast																															
Susanville	Mtn. Lakes					.14																				.09	.09					0.32
Tamarack	Sacramento																					.02				.24					.06	0.32
Tehachapi	San Joaquin																												.84			0.84
Tehama	Sacramento				T.																						.30					0.30
Tejon Rancho	San Joaquin																						T.						T.	.36		0.36
Three Rivers	do											T.										T.							T.	.14		0.14
Towle	Sacramento																										.10					0.10
Tracy	San Joaquin																															0.00
Tulare	do																					T.							T.	.17		0.17
Tustin (near)	Coast																													.16	.20	0.36
Ukiah	do																									T.	.01					0.01
Upland	do																												T.	.93	.55	1.48

TABLE 2.—*Daily precipitation for September, 1911. District No. 11*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
California—Contd.																															
Upper Lake	Sacramento																									.03						0.03
Upper Mattole	Coast										.18	.10															T.					0.28
Vacaville	Sacramento																														.03	0.03
Valley Springs	San Joaquin																									.06						0.06
Visalia	do																															
Warner Springs	Coast																												.20	.06	.28	0.54
Wasco	San Joaquin																															
Watsonville	Coast																															0.00
Weitchpec	Klamath				.07	.05							.25			.05										.45	.20					1.07
West Branch	Sacramento					.03																				.23	.36					0.62
Westley	San Joaquin																															0.00
West Point	do																							.17								0.17
West Saticoy	Coast																					T.							.14			0.14
Wheatland	Sacramento																									.07	.04					0.11
Willows	do																								.02	.10						0.12
Yosemite	San Joaquin																					T.	.50							.22	.10	0.82

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

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TABLE 3.—*Maximum and minimum temperatures for September, 1911. District No. 11, California.*

Date.	Lakeview, Oreg.		California.																							
			Alturas.		Barstow.		Brans-comb.		Brawly.		Colusa.		Eureka.		Fresno.		Independ-ence.		Los Ange-les.		Mount Ta-malpais.		Nevada City.		Porter-ville.		Red Bluff.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	.....	.....	87	33	.....	.....	72	39	106	65	83	55	58	53	99	60	.....	.....	81	60	73	58	93	40	.....	.....	91	57
2	.....	.....	83	36	.....	.....	70	37	103	65	84	54	61	53	88	58	.....	.....	75	61	70	51	83	40	.....	.....	84	56
3	.....	.....	77	41	.....	.....	70	36	110	72	85	53	62	54	88	55	.....	.....	78	60	70	55	84	43	.....	.....	89	58
4	.....	.....	72	35	.....	.....	64	36	98	.....	77	54	62	52	85	56	.....	.....	76	62	56	46	75	40	.....	.....	76	60
5	.....	.....	55	37	.....	.....	70	39	97	.....	74	51	62	52	80	53	.....	.....	76	61	63	46	77	37	.....	.....	77	50
6	.....	.....	71	29	.....	.....	75	40	.....	.....	82	50	60	49	85	53	.....	.....	75	58	71	53	84	35	.....	.....	84	56
7	.....	.....	78	27	.....	.....	81	44	.....	.....	86	52	58	53	89	56	.....	.....	80	54	77	63	88	40	.....	.....	90	63
8	.....	.....	78	35	.....	.....	82	41	99	.....	83	55	62	55	93	58	.....	.....	76	55	71	47	86	40	.....	.....	85	62
9	.....	.....	73	39	.....	.....	76	38	98	.....	78	52	62	49	83	55	.....	.....	77	57	57	45	71	40	.....	.....	73	57
10	.....	.....	71	31	.....	.....	65	35	101	.....	73	50	63	47	81	51	.....	.....	81	56	60	46	75	38	.....	.....	75	50
11	.....	.....	74	24	.....	.....	68	35	102	.....	76	48	65	50	78	56	.....	.....	81	59	66	46	75	35	.....	.....	77	50
12	.....	.....	70	25	.....	.....	70	37	97	.....	77	52	64	52	84	54	.....	.....	82	60	62	48	75	36	.....	.....	76	55
13	.....	.....	73	27	.....	.....	74	36	89	70	81	48	62	48	86	53	.....	.....	86	61	72	50	81	35	.....	.....	84	54
14	.....	.....	81	25	.....	.....	74	36	94	75	84	47	63	51	91	55	.....	.....	83	58	77	62	84	38	.....	.....	87	50
15	.....	.....	77	39	.....	.....	78	35	99	68	83	52	66	54	92	56	.....	.....	80	52	75	61	87	38	.....	.....	86	54
16	.....	.....	72	28	.....	.....	80	35	102	67	83	51	60	50	91	57	.....	.....	84	54	75	57	88	38	.....	.....	84	55
17	.....	.....	63	21	.....	.....	82	39	101	61	83	51	59	46	88	55	.....	.....	80	55	77	60	87	35	.....	.....	82	61
18	.....	.....	76	17	.....	.....	89	38	101	60	84	60	59	44	90	53	.....	.....	80	59	78	62	86	35	.....	.....	88	58
19	.....	.....	75	23	.....	.....	85	40	102	67	83	48	59	49	92	54	.....	.....	78	54	78	67	85	37	.....	.....	86	52
20	.....	.....	85	25	.....	.....	84	44	102	64	83	49	63	47	94	56	.....	.....	80	54	82	67	89	40	.....	.....	91	59
21	.....	.....	80	28	.....	.....	78	42	103	66	78	53	57	48	80	61	.....	.....	84	57	69	46	84	42	.....	.....	81	53
22	.....	.....	70	29	.....	.....	72	40	100	73	73	49	57	45	84	56	.....	.....	80	62	54	47	76	42	.....	.....	73	51
23	.....	.....	73	33	.....	.....	70	39	103	63	76	50	58	44	86	56	.....	.....	81	60	63	43	83	42	.....	.....	79	55
24	.....	.....	77	38	.....	.....	71	38	104	65	76	49	59	47	76	56	.....	.....	79	59	61	44	80	41	.....	.....	80	56
25	.....	.....	70	40	.....	.....	63	41	101	68	68	46	60	50	74	56	.....	.....	73	58	49	44	55	40	.....	.....	62	50
26	.....	.....	60	33	.....	.....	57	41	99	72	71	47	64	49	75	48	.....	.....	73	53	61	44	68	40	.....	.....	68	48
27	.....	.....	57	32	.....	.....	67	38	94	70	79	47	60	47	79	49	.....	.....	79	53	60	45	72	32	.....	.....	73	54
28	.....	.....	73	24	.....	.....	69	38	92	72	74	44	58	47	64	49	.....	.....	69	60	69	54	83	33	.....	.....	81	51
29	.....	.....	77	25	.....	.....	75	40	94	73	76	51	59	48	80	56	.....	.....	79	61	74	60	72	34	.....	.....	78	50
30	.....	.....	71	33	.....	.....	70	39	93	73	75	50	55	50	86	57	.....	.....	73	59	63	44	78	41	.....	.....	78	56
Mns..	.....	.....	73.3	30.4	.....	.....	73.2	38.5	99.4[b]	68.0[d]	78.9	50.6	60.6	49.4	84.7	54.9	.....	.....	78.6	57.7	67.8	52.0	80.1	38.2	.....	.....	80.6	54.7

Date.	California.																									
	Redlands.		Sacramento.		San Diego.		San Francisco.		San Jose.		San Luis Obispo.		Santa Barbara.		Santa Rosa.		Sisson.		Stockton.		Summit.		Susanville.		Yosemite.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	102	60	80	51	69	59	58	51	71	54	81	51	72	61	71	50	80	39	84	53	73	46	80	41	94	41
2	90	55	75	54	72	62	61	54	69	54	70	52	75	58	78	44	82	41	75	55	68	36	80	41	85	38
3	88	51	83	54	70	62	68	53	77	46	71	52	72	55	87	42	80	42	70	54	68	40	78	45	84	38
4	82	54	75	54	69	62	61	52	70	44	69	50	68	55	77	42	61	43	68	52	54	38	69	41	85	35
5	81	60	77	50	72	63	65	52	74	48	70	45	72	54	78	41	62	41	76	51	50	32	62	39	82	32
6	85	49	85	53	72	59	72	54	81	44	79	50	75	50	83	44	68	35	82	51	60	32	68	34	80	30
7	90	51	89	55	74	55	69	52	86	44	82	52	75	49	86	45	74	45	86	52	66	35	68	38	78	34
8	89	51	79	58	72	59	61	52	73	48	71	49	70	59	73	42	72	49	82	54	61	40	72	41	85	34
9	87	47	71	53	70	54	64	53	70	49	70	50	74	50	73	42	61	43	82	51	52	31	78	41	84	34
10	90	51	71	50	73	58	64	52	72	43	66	51	77	53	70	37	61	42	70	51	52	32	79	55	82	34
11	92	55	76	49	74	58	67	56	74	46	67	50	80	54	74	46	61	42	76	51	48	30	69	35	87	40
12	93	56	76	52	73	61	66	56	73	48	73	52	81	51	74	51	61	32	75	52	57	42	66	35	82	31
13	91	58	81	50	73	61	75	54	80	43	86	50	82	50	84	40	67	38	82	48	62	35	66	34	85	31
14	92	56	86	54	76	63	79	56	86	46	82	48	75	49	87	40	74	39	86	50	63	36	74	35	87	32
15	93	55	86	55	72	59	70	54	82	44	81	49	75	50	86	42	75	38	85	51	62	45	78	38	87	31
16	94	53	85	55	73	61	68	53	78	46	79	48	78	48	83	41	74	36	84	53	62	38	72	38	88	33
17	92	54	83	56	69	59	78	54	85	42	83	45	76	58	88	43	72	30	83	52	61	37	64	30	87	34
18	90	50	85	57	72	61	82	52	86	42	74	48	72	59	89	40	74	36	85	51	60	32	65	29	89	32
19	90	50	88	54	73	57	68	49	82	43	73	49	70	59	83	36	71	34	85	49	65	35	74	33	88	30
20	90	50	92	50	73	57	62	49	83	43	71	48	74	55	87	36	76	38	88	50	64	36	71	34	92	32
21	90	54	69	54	76	60	60	52	67	48	72	50	78	55	62	48	73	40	80	52	58	31	74	41	80	40
22	89	62	71	54	75	63	65	56	77	49	72	55	75	53	66	53	72	41	74	50	59	43	68	37	78	34
23	91	54	72	56	75	60	62	54	75	53	70	53	74	53	72	48	76	40	74	52	61	38	78	40	84	38
24	92	55	72	51	73	61	61	54	65	49	63	53	73	54	70	46	71	40	68	52	59	38	75	40	76	41
25	84	53	67	51	70	62	63	55	69	46	65	54	75	52	67	43	55	38	68	51	38	30	64	42	70	44
26	78	48	69	51	68	58	65	53	70	45	68	43	71	47	68	47	54	31	68	47	49	36	57	38	72	27
27	86	68	74	48	71	59	65	54	70	43	77	44	75	45	74	43	56	30	70	47	49	32	58	34	77	28
28	69	55	80	50	71	64	75	54	76	42	73	54	69	47	82	40	64	34	74	46	48	32	62	30	77	30
29	80	60	77	55	76	62	72	54	82	44	80	52	77	53	81	38	68	36	76	52	59	38	66	30	59	44
30	75	60	68	55	72	63	59	54	67	48	62	52	72	51	68	50	65	39	68	54	58	36	68	43	64	41
Means...	87.8	54.5	78.1	53.0	72.3	60.1	66.8	53.3	75.7	46.1	73.3	50.0	74.4	52.9	77.4	43.3	68.7	38.4	77.5	51.1	58.2	36.1	70.1	37.7	81.6	34.8

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
‡ Data are from standard instruments not supplied by the U. S. Weather Bureau.
‡‡ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR SEPTEMBER, 1911.

DISTRICT No. 12, COLUMBIA VALLEY.

EDWARD A. BEALS, District Editor.

GENERAL SUMMARY.

The month was cool and wet and especially noted for the phenomenally heavy rainfall in the Willamette Valley, which was greater than ever before recorded in the last 40 years. These heavy rains were caused by a series of depressions over the inter-Mountain States that were prevented from advancing eastward by the slow movement of large high-pressure areas over the Canadian Northwest and the upper Missouri Valley. Fears were entertained that these rains would cause a dangerous rise in the river and also damage the hop and prune crops, which were then being harvested. No rise of consequence, however, occurred in the river, and the damage to the crops was much less than expected. There were no severe windstorms and the general conditions, except as noted, were favorable for construction and farm work. The many frosts and thunderstorms did no harm to the staple crops, which were too far advanced to be injured by frost, and as the thunderstorms were not accompanied by high winds they were beneficial rather than otherwise. The entire season has been especially favorable for the lumber industry, as good stages were maintained in the logging streams and the fire losses were much less than usual. No serious interruptions to railway traffic occurred, but country roads in places became so muddy that there was considerable delay in hauling produce from the farms to the railroads.

TEMPERATURE.

Temperatures were unseasonably low over the entire district during September. The greatest departure from normal was $-7.8°$, at Williams, Oreg., and at several other places in western Oregon the mean temperatures were more than 3° below the seasonal average. In the Puget Sound country the departures were least, broad areas considered, but even here at certain places the differences were considerable. The warmest weather of the month at most places occurred on the first two days, but this was followed by much cooler weather, which prevailed for the rest of the month. The minimum temperature at a majority of points occurred on the 24th and 25th, but there was not so marked a uniformity in the occurrence of the lowest temperatures as in the occurrence of the highest, and a number of stations, particularly in Idaho, reported the minimum as taking place on the 18th of the month.

The mean temperature for the month, as determined from the records of 254 stations, was 53.7°, which is 1.9° below the district normal for September. The highest temperature recorded was 101°, at Garnet, Idaho, on the 1st, and the lowest 10°, at Chesterfield, Idaho, on the 16th. The greatest daily range was 61°, at Chesterfield, Idaho, on the 1st.

PRECIPITATION.

Precipitation exceeded the normal amount for September throughout the district, southern Idaho and southeastern Oregon alone being excepted. The heaviest rainfall occurred in the Willamette Valley in Oregon and in the Cascade Mountains in Oregon and Washington. Considering the heavy precipitation, which was general in the interior of western Oregon and western Washington, the amounts along their coasts were comparatively light. For example, at Portland the rainfall for the month was over 5 inches, while on the coast, 60 miles westward, it was about 2 inches. Over southeastern Oregon and southern Idaho the amounts were insignificant and totaled less than 1 inch over most of this section. More than 80 per cent of the rainfall in Oregon and Washington fell during the first half of the month. Considerable snow fell in the mountains and higher valleys of Montana and lesser amounts were reported from the high Wyoming ranges.

The average precipitation, as determined from the records of 365 stations, was 1.95 inches, an average excess over the normal September rainfall of 0.75 inch. Considering individual States, the excess above normal in Oregon was 1.40 inches and in Washington 1.01 inches. The greatest monthly amount was 11.24 inches at Musick, Douglas County, Oreg. The elevation of this station is 5,000 feet. There were three stations in Washington at which no rain fell during the month. The greatest 24-hour precipitation was 3.86 inches, at Musick, on the 5th.

THE RIVERS.

The Willamette River averaged above normal for September and the Columbia and Snake Rivers below, but the departure was not large on any of the streams. Heavy rains on the west side of the Cascade Range produced a rapid rise in the Willamette River and its tributaries during the fore part of the month, but owing to the dryness of the soil much of the water was absorbed in the watershed, greatly diminishing the run-off and preventing as high water in the streams as could have been expected later on in the season with saturated ground. The mean stage in the Willamette exceeded that of the preceding month, but water in the Columbia and Snake Rivers averaged decidedly lower than in August.

The average stage in the Willamette River was 0.4 foot above the normal stage for September. The highest water occurred from the 6th to the 10th of the month and the lowest water between the 1st and 5th.

The Columbia River was at about the normal stage for September. The departure at The Dalles was -0.9 foot and at Cascade Locks -0.7 foot. The highest water occurred generally during the first 10 days of the month and lowest on the 30th.

The Snake River showed an average stage of 0.2 foot below normal. The lowest water occurred early and the highest water late in the month.

MISCELLANEOUS.

A great many thunderstorms occurred during September. They seemed to be confined to no particular district, but were reported from nearly all sections. As

large number occurred on the 1st and 2d, and from the 11th to the close of the month they were general. The larger number occurred in the mountainous country and in the basin and plateau region to the eastward of the Cascade Range. More than 40 stations in the State of Oregon alone reported one or more thunderstorms.

Killing frosts occurred at over a dozen stations in Oregon, and light to heavy frosts at a good many more points in Washington and Idaho. Damage was not general, however, being confined to limited areas.

Sunshine was deficient in Washington, particularly west of the Cascade Mountains. It was somewhat below normal in northwestern Oregon, but elsewhere in the district there was about the usual amount.

The average wind direction was from the west, and the highest velocity reported was 56 miles an hour from the southeast at North Head, Wash., on the 14th.

WATER RESOURCES IN OREGON AND THEIR DEVELOPMENT.

By JOHN T. WHISTLER, Member American Society of Civil Engineers.

A prominent man in public affairs said recently with reference to certain of our country's natural resources: "There is but one protection—an awakened public opinion. That is why I give you the facts."

It is certainly very true that if we are to make the most of our natural resources there must be a wide general knowledge of what they are and the conditions surrounding them.

More than six years ago I had the privilege of conveying to the joint committee on irrigation of the Oregon State Legislature, then in session, the offer of the Director of the United States Geological Survey to allot, from the Federal appropriation for stream-gaging work, an amount equal to whatever the State legislature would appropriate for the same purpose, not exceeding $25,000 per annum; that is, if the State would appropriate $25,000 for stream-gaging work in Oregon, the United States Geological Survey would allot from the Federal appropriation a similar amount, making $50,000 per annum for stream-gaging work.

Other States, more keenly alive to the value of such work, promptly accepted similar offers, and it is not now so easy to get the full amount originally offered.

What the State legislature actually did, was to appropriate only 10 per cent of the full amount offered, or $2,500. The United States Geological Survey, true to its offer, allotted an equal amount each year. This year, as a result of the continued agitation, the State legislature appropriated a total of $25,000 for hydrographic and topographic work, about $10,000 of which goes to stream-gaging work. The United States Geological Survey has allotted a similar amount.

QUANTITY OF WATER AS AFFECTING IRRIGATION, WATER-POWER DEVELOPMENT, AND NAVIGATION.

Taking up the features of water resources having more direct reference to quantity, I wish to show the shortsightedness displayed in developing a knowledge of what the resources of this character are in the State of Oregon.

About the first things an engineer must consider in either an irrigation or a water-power project are, What are the mean daily discharges, what is the minimum discharge and its duration, and what is the maximum rate of discharge that will have to be taken care of. The latter will not be determined by 10 or 25 years' records, or even a 100-year record, as witnessed in the recent flood of the river Seine in France. Such reports will be of value, though, in aiding to form a judgment of what it may be. The mean daily discharges, however, and the probable yearly variation from them in the future, will be fairly well known, and this can not be even reasonably determined in any other way.

It makes no difference how valuable such information would be to the State of Oregon, directly or indirectly, to-day or to-morrow, concerning some stream of which such gagings and records have not been made and kept, no amount of money can obtain them now. It costs very little money as compared to its value, but it requires years of time.

I can call to mind irrigation projects which would involve the expenditure of many millions in construction in Oregon, but which can not be financed at the present time because of the very meager knowledge of the available water supply. The same can be said of power projects. If the people generally could only realize the value of this knowledge I feel the demand for a still larger appropriation by the legislature would be such as to make it one of the first acts of the next session.

The value of this knowledge of stream flow is not alone in connection with the development of new projects, but it is also in the better and more equitable distribution of existing water rights. Last year my attention was called to a news item from Roswell, N. Mex., in which it was stated that since the completion of the Hondo project by the Reclamation Service some two years prior, the reservoir had not received a drop of run-off. I understand that this was true, and that practically the same conditions have continued to the present time.

The Sweetwater Dam in southern California was completed to a height of 95 feet in 1895. It created a storage reservoir of 22,500 acre-feet capacity. During the eight years prior to this the run-off at the dam had averaged nearly this amount, though over two-fifths of it ran off in one year. The total run-off for the next nine years was less than half enough to fill the reservoir once, and probably barely supplied evaporation. During four of these years there was absolutely no run-off at the dam, and three of these years were successive.

After 10 years, during which the total run-off was not sufficient to fill the reservoir once, the supply has again been abundant, and the dam this year has again been increased by sufficient to approximately double the capacity of the reservoir. This is practically the fourth time the dam has been increased, yet there is little doubt that if a better knowledge had been available of the stream's characteristics the dam would never have been commenced.

The feeling is yet prevalent with most Oregonians that irrigation in the Willamette Valley would be like "carrying coals to Newcastle," but it is a fact that the average precipitation in this valley during the growing season is less than in many of the arid regions. This is well illustrated in the diagram, Fig. 1, compiled from the records of the United States Weather Bureau and published by the Oregon Conservation Commission, which has undertaken to promote irrigation in the Willamette Valley.

A knowledge of water resources is not complete when we have made analyses of the character of all our waters and have obtained long records of rate of discharge, as we also want to know what can be done to increase the minimum discharge of a stream. This is as true for power development as for irrigation. The minimum flow of a stream usually determines the maximum economic development of a power project, because a power good for only nine months in the year has little demand, and the instal-

lation of auxiliary steam plants to supply the deficiency during the three months adds so much to the yearly cost of the power in the way of interest, depreciation, insurance, and operation, as well as for fuel, that a power plant of this character can not usually compete with one not requiring an auxiliary plant.

The diversion of water from a stream is almost invariably so interrelated with other uses of water from the same stream, either present or future, that economic development of our water resources requires that each new use of water proposed, whether by diversion alone or by storage and diversion both, be considered in connection with all other possible uses of water from the same stream before the right is granted to construct. This is precisely what is done now in all the older countries where irrigation is practiced, such as Italy, France, and Spain.

To illustrate: If the irrigation interests of a valley or drainage basin appear, after a thorough consideration, to be superior to power interests—that is, of more value to the State—the granting of a power right on the stream below the irrigation lands should only be done as inferior to all subsequent diversions above for irrigation. If, on the other hand, after full consideration and with all the data essential to such consideration and study, it appears that the stream is more valuable for power purposes, then diversion for irrigation should be made inferior to power diversions.

If this is not done we may see the spectacle of a power plant worth, say, $1,000,000, on the lower course of a stream, holding up irrigation development above worth many millions. Even if the power right be condemned and the owners fully compensated for all expenditures and all values of the site as a power site, it will, nevertheless, have been an economic waste.

It will be said by some, "Let the fellow who gets there first have it. 'Finding is having.'" Now the facts are that the value of all water rights is made by the people and their increasing desire to use or utilize such resources. Should they not then at least have the privilege of saying in what manner the water right shall be developed? I have reference only to the value made by the people as a whole and not to the value added to the natural value by individual labor or effort. The individual right to this latter will hardly be questioned.

Any systematic development of water resources must include mining and navigation. The question of hydraulic mine tailings has been the cause of almost endless litigation in California. The interests of this State in river navigation where it will be affected by the use of water above navigation may, in years to come if not now, be greater than that of mining.

There comes under navigation the use of certain streams for logging. I know of a stream on which the logging interests are dominant through earlier use, at the expense of irrigation interests. It may be in this particular case that the logging interests should have the superior right—that the stream in that way yields a greater service to the State; but it may not, and we can conceive of a stream being held for logging purposes when it would be of infinitely greater value to the State as an irrigation stream.

Other water resources are artesian supplies and pumping from wells and streams for irrigation. Considerable has been done by the United States Geological Survey in investigation of artesian-well possibilities by study of the geological formations. Earlier bulletins by Russell and a later water-supply paper by Waring are valuable for reference in this connection.

WATER RESOURCES IN THEIR RELATION TO FORESTS.

Much has been said in the last few years of the value of forests in keeping up the summer flow of streams and thus benefiting both irrigation and power development. The radical supporters of forestry conservation will tell us that it hardly admits of argument. It certainly looks plausible, and yet you will find a great many of the hydraulic engineers of the country, if not indeed a large majority, of the opinion that the value of forests in preserving stream flow is very questionable.

Col. H. M. Chittenden of the United States Army Engineers, in a carefully prepared paper read before the American Society of Civil Engineers last year, refuted many of the arguments of the radical forestry advocates.

Mr. John R. Freeman, one of the most eminent engineers in New England, in an address before a meeting of engineers to consider conservation of national resources, said to his personal knowledge no perceptible change had taken place in New England streams from deforestation within his lifetime nor, so far as the available records show, since deforestation began.

Prof. Willis L. Moore, Chief of the United States Weather Bureau, in a carefully prepared report on The Influence of Forests on Climates and Floods, which was printed by direction of the Committee on Agriculture in the House of Representatives, states that the high waters in our rivers are not higher and the low waters are not lower than formerly, but, on the contrary, there appears to be a tendency in late years toward a slightly better low-water flow in summer. He, like most of the meteorologists, believes that the broken, cultivated, permeable soil is equally as good a conserver of rainfall as the forest area itself, and weather statistics favor the opinion of those who question the value of forests in preserving stream flow.

The following comparison of streams from forested and nonforested areas is from data prepared by John C. Stevens of Portland, Oreg., who was at the time assistant engineer of the United States Geological Survey, in charge of hydrographic investigations in Oregon and Washington:

A standard measure of the uniformity of flow is a very difficult thing to secure. For want of a better standard we may take the ratio of the maximum to the minimum discharge as the measure of uniformity. To show how it varies on different streams and under different conditions of forestation we will select a few streams in groups of two that drain both a forested and nonforested area and have nearly the same climatic conditions. As the intention is to show only relative conditions of flow, a single year's record is sufficient if simultaneous on the streams compared.

We will take for our first pair of streams the Donner and Blitzen River which flows into Harney Lake from the south and the Silvies River which flows into the same lake from the north. The Donner and Blitzen River drains the western slope of Steins Mountain and the watershed is without forest of any kind. The Silvies River, as the name implies, is quite heavily forested and it drains the southern slope of the Blue Mountains. The records of 1909 on both streams have been used. The highest discharge on Silvies River is 125 times the minimum flow and is in strong contrast to the even discharge of Donner and Blitzen River, whose maximum is less than 12 times the minimum.

We will take for our next pair of streams two which drain opposite sides of the Sierra Nevada Mountains in central California. Kings River drains the western slope and its entire area is heavily forested. Owens River drains the eastern slope and it is practically without forest of any kind. The soil of both is of granitic origin and the topographic features are not different. The rainfall on the Kings River drainage is a great deal more than on Owens River. On this account one would expect Owens River to present some of the features of arid region streams, but this does not appear to be the case. The discharge for 1906 has been used for both streams. The maximum discharge of Owens River is only 5 times the minimum while the maximum discharge of Kings River at the same time was 130 times the minimum discharge. The contrast is most striking and is all the more significant because the chief physical difference is that of difference in forest con-

ditions. Owens River is to be utilized as a source of future water supply for the city of Los Angeles and the surrounding country. Forestry enthusiasts have advocated the artificial forestation of its watershed to render the flow more uniform. If this comparison is any indication it would be well to let well enough alone.

We have compared two sets of streams, each possessing different conditions of forestation. Let us now examine three streams under the conditions existing on the plains of the Middle West. All three streams head in the foothills of the Rocky Mountains and flow eastward. The physical conditions as regard elevation, precipitation, and temperature are almost identical. Niobrara River flows from Wyoming across the northwestern part of Nebraska. Republican River flows from Colorado across the southwestern portion of the State. Frenchman River is a tributary of the Republican River from the north. All three watersheds are treeless. The first significant feature is that the ratio of maximum to minimum for all three streams without forests is much less than the corresponding ratio for the forested areas previously considered. The next significant feature is that the uniformity of flow among them differs widely. Plainly this can not be attributed to forests since there are none. The records for 1906 are used. The maximum discharge of the Niobrara was only 5 times its minimum. The maximum flow of the Republican was 34 times the minimum and of the Frenchman 11 times.

We will now compare three streams under forested conditions. For this purpose the Willamette River, draining the territory between the Cascade and Coast Ranges in Oregon, the Deschutes River, which parallels the Willamette River on the east side of the Cascade Mountains, and the Crooked River, which is a tributary of the Deschutes River from the east, will be taken. From the summit of the Cascade Range eastward the rainfall and consequently the stand of timber diminishes until the ascending slope of the Blue Mountains is reached, where the rainfall and stand of timber increases. Westward from the summit of the Cascade Mountains the rainfall diminishes to the Willamette River, then increases to the maximum at the summit of the Coast Range. The forests cover the entire drainage area of the Willamette River to the very banks of the river except where it has been removed by man. This area is one of the most densely forested areas in the United States. The logging that has been done has been confined to the lower altitudes and the forests of the water-producing portion of this area are still in their primeval state. On the watershed of the Deschutes River practically no timber has been cut, but only about 60 per cent of its drainage area may be considered as forested. Crooked River, which is its principal tributary, drains the western slope of the Blue Mountains. On its headwaters the forests are almost as dense as those on the headwaters of the Deschutes River. Now note the great difference in uniformity of flow from these three forested areas. The records of 1909 have been used and it is seen that the maximum of Deschutes River is only 5 times the minimum. On the Willamette River the ratio is 57, and on Crooked River 111 for the same period.

It is to be regretted that there are so little data upon which to make a more complete analysis of the conditions of flow on these streams. Knowledge of the rainfall is incomplete, and only very meager information is available as to the condition of the soil. There is no doubt, however, that if we could place all these streams on the same basis we would find that the heavily forested areas would deliver less water in proportion to the amount of rainfall received than the nonforested areas. In fact it has been shown from recent experiments in Switzerland that the run-off from forested areas is frequently but 60 per cent of that from cleared watersheds, all other conditions being the same.

It is admitted by all, I believe, that the total run-off of a stream is lessened by forests. On any stream devoted to irrigation or power, therefore, where storage is provided for the entire run-off of ordinary low-water years, the forests might be very detrimental. The time will come when several streams of eastern Oregon will be thus provided with storage for all the run-off of ordinary years. Forests would not have aided the Hondo reservoir nor the Sweetwater reservoir before mentioned. On the other hand it must be admitted that the forests tend to prevent erosion of the ground and thereby materially delay the filling up of the reservoirs with silt.

I mention these things only to call attention to the many sides of water conservation. I do not wish it understood that I am opposed to reasonable forest conservation. I believe that the forests, both public and private, are peculiarly a natural resource in which the whole people have a vital interest. I would even suggest the advisability of requiring lumbermen to reseed and maintain one acre for every acre logged, if the interests of the State would be thus best served.

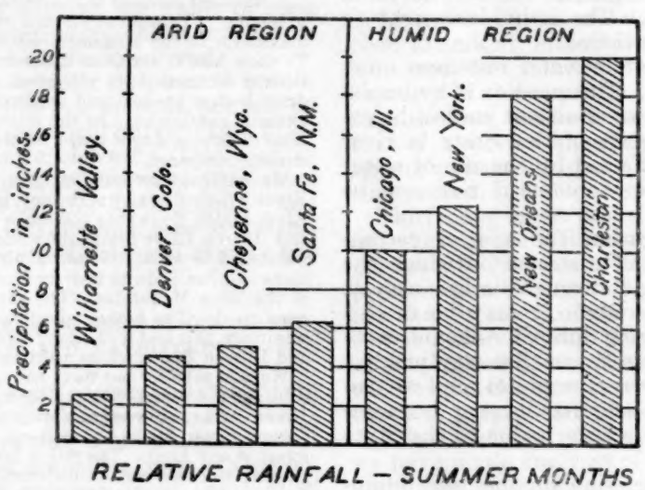


FIG. 1.

TABLE 1.—*Climatological data for September, 1911. District No. 12, Columbia Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Montana.																				
Anaconda	Deer Lodge	5,300	10	49.8	.....	82a	1	26a	25	44a	1.28	+ 0.01	0.58	.....	6	20	4	6	.....	C. D. Demond.
Butte	Silver Bow	5,716	17	50.9	− 1.9	83	1	29	25	37	1.20	+ 0.01	0.45	5.0	4	12	3	15	nw.	J. R. Wharton.
Columbia Falls	Flathead	3,100	16	51.0	− 2.1	94	2	23	25	48	1.35	− 0.79	0.38	1.0	9	11	8	11	s.	J. M. Brist.
Como **			3	50.9	.....	80	1	30	19†	37	2.10	.....	1.13	0	11	14	6	10	.....	Hiram Platt.
East Anaconda	Deer Lodge	5,500	6	50.7	.....	82	1	28	23	33	1.11	.....	0.70	0.3	7	20	4	6	w.	C. D. Demond.
Fortine	Lincoln	2,975	6	51.2	.....	87	11	21	24†	59	1.71	.....	0.80	0	5	7	8	15	nw.	Mike Petery.
Hamilton	Ravalli	3,575	8	52.8	.....	82	1†	29	25	34	1.90	.....	1.70	0	2	14	12	4	w.	Bitter Root Val. Irrigation Co.
Hat Creek	Powell	6,000	2	.....	.....	.....	.....	.....	.....	.....	1.02	.....	1.01	2.9	8	7	13	10	w.	M. K. Landreth.
Kalispell	Flathead	2,965	13	51.0	− 2.9	86	2	26	25	37	2.75	+ 1.42	1.51	T.	11	9	13	8	w.	U. S. Weather Bureau.
Libby	Lincoln	2,055	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Forest Service.
Lost Creek	Deer Lodge	5,200	2	.....	.....	.....	.....	.....	.....	.....	0.88	.....	0.54	4.0	3	17	5	8	w.	Frank Henault.
McGinnis Meadows	Lincoln	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. L. Bebee.
Missoula	Missoula	3,225	32	54.5	− 1.3	93	1	25	25	45	1.31	+ 0.07	0.47	.....	6	.....	.....	.....	sw.	U. S. Weather Bureau.
Ophir	Powell	8,800	2	.....	.....	.....	.....	.....	.....	.....	1.88	.....	0.80	1.5	10	14	13	3	w.	E. S. Wilton.
Ovando	do	4,207	12	55.0	+ 4.4	90	18	30	24†	56	1.18	− 0.18	0.49	0	8	0	29	1	w.	S. B. Muchmore.
Philipsburg	Granite	5,275	8	49.1d	.....	84d	10†	20d	25	50d	1.18	.....	0.75	3.0	5	16d	3d	7d	sw.	G. T. Bramble.
Plains	Sanders	2,475	13	53.3	− 2.4	89	1	25	25	41	3.16	+ 1.66	2.00	0	5	16	0	14	sw.	M. H. Pierce.
Pleasant Valley	Flathead	3,500	4	48.1	.....	87	2	21	25	57	4.01	.....	1.50	.....	11	7	17	6	.....	A. D. Stillman.
Polson	do	2,920	4	55.2	.....	87	1	34	7†	33	2.40	.....	1.30	0	6	.....	.....	.....	.....	F. P. Brown.
Proctor	do	2,800	7	51.9	.....	87	2	30	19†	37	2.15	.....	1.30	.....	4	15	0	15	.....	C. E. Proctor.
Saint Ignatius	Missoula	2,700	6	53.2	.....	89	1†	24a	25	41a	3.02	.....	0.99	0	13	8	12	10	.....	U. S. Reclamation Service.
Saint Regis	do	2,650	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. D. Lee.
Saltese	do	3,600	7	.....	.....	.....	.....	.....	.....	.....	3.04	.....	0.67	0	6	22	0	8	w.	E. K. Tarbox.
Stevensville	Ravalli	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. S. Birge.
Thompson Falls	Sanders	2,462	.....	54.6	.....	92a	1	27	25	44a	1.81	.....	0.60	0	11	12	6	12	w.	R. H. Bushnell.
Willow Glen Stock Farm.	Deer Lodge	5,064	1	48.9	.....	81a	10†	23	24	43a	1.16	.....	0.70	0.5	5	8	12	10	se.	G. E. Luce.
Wyoming																				
Afton	Uinta	6,200	7	.....	.....	90	1	16	18	.....	1.45	.....	0.52	0	6	20	2	8	.....	A. V. Call.
Alta	do	7,000	1	48.8	.....	82	2	16	18	50	1.38	.....	0.42	0.1	12	7	8	15	sw.	Mrs. Lucy Brown.
Bechler River	Yellowstone Park.	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.01	.....	0.70	T.	10	16	9	5	sw.	U. S. Army.
Bedford	Uinta	5,900	11	49.5b	− 2.0	81	11	16	17	49b	0.73	− 0.14	0.50	0	3	12b	6b	4b	w.	C. G. Heiner.
Moran	do	.....	.....	45.2	.....	79	11	20	18†	46	1.37	.....	0.40	.....	10	20	0	10	sw.	U. S. Reclamation Service.
Snake River	Yellowstone Park.	7,000	5	47.3	.....	80	2	18	20	50	1.99	.....	0.40	T.	11	8	14	8	w.	U. S. Army.
Nevada																				
San Jacinto	Elko	.....	6	56.2	.....	89	1	16	17	55	.....	.....	.....	0	....	11	13	6	sw.	Mose Jones.
Utah.																				
Standrod	Boxelder	.....	6	56.6	.....	85	1	30	18	39	1.39	.....	0.84	0	2	21	6	3	s.	T. B. Jones.
Idaho.																				
Albion	Cassia	4,560	12	55.1	− 1.9	92	2	22	18	56	0.53	− 0.20	0.29	0	3	15	10	5	w.	G. A. Axline.
Almo	do	.....	3	.....	.....	.....	.....	.....	.....	.....	0.97	.....	0.61	0	3	19	10	1	s.	William D. Cahoon.
Alpha	Boise	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. King.
American Falls	Oneida	4,341	20	52.8a	− 5.1	91	2	16	18	59	0.56	− 0.11	0.56	0	1	21	0	9	s.	Harry W. Hall.
Blackfoot	Bingham	4,503	16	55.6	− 1.9	87	1†	24	18	47	0.78	+ 0.25	0.35	0	3	14	16	0	sw.	E. A. Dowd.
Blackfoot Dam	Bannock	6,200	2	54.4	.....	81	2	27	18	38	1.46	.....	0.63	0	6	13	7	10	sw.	N. W. Irsfield.
Bogus Creek	Boise	4,200	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. P. Ingraham.
Boise	Ada	2,739	26	60.2	− 1.7	93	1	35	17	37	0.04	− 0.37	0.02	0	3	14	11	5	nw.	U. S. Weather Bureau.
Bonners Ferry	Bonner	1,850	5	53.2	.....	92	2	28	24	50	2.20	.....	0.67	0	9	7	13	10	sw.	W. H. Heideman.
Boulder Mine	Boise	4,800	2	.....	.....	.....	.....	.....	.....	.....	0.33	.....	0.17	0	5	17	6	7	.....	Patrick Moriarty.
Buhl	Twin Falls	3,800	5	60.6	.....	92	2†	32	28	49	T.	.....	T.	0	0	.....	.....	.....	w.	Hugh Taylor.
Caldwell	Canyon	2,372	7	57.3	.....	90	1†	28	18	44	0.12	.....	0.12	0	1	14	16	0	w.	Wm. J. Boone
Camas	Fremont	4,815	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Ednah Faulkner.
Cambridge	Washington	2,651	16	58.2	− 2.0	98	2	26	18	51	T.	− 0.59	T.	0	0	.....	.....	.....	.....	Chas. H. Shepherd.
Cedar Creek Dam	Twin Falls	.....	1	.....	.....	.....	.....	.....	.....	.....	0.25	.....	0.10	0	3	14	11	5	nw.	Robert Hoffman.
Chesterfield	Bannock	5,424	15	52.0	+ 0.5	93	1	10	16	61	2.23	+ 1.57	0.72	0	6	.....	.....	.....	.....	Chas. S. West.
Clyde	Custer	.....	1	48.8	.....	77	1	22	29	41	1.08	.....	0.39	T.	6	15	9	6	sw.	R. L. Sutcliffe.
Cottonwood Creek	Boise	4,000	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Frank Hedrick.
Council	Adams	.....	1	57.8	.....	91	1	34	17	38	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dick Ross.
Culdesac	Nez Perce	1,520	3	57.2	.....	95	1	29	25	55	1.31	.....	0.80	0	3	19	3	8	.....	R. R. Richmond.
Deary	Latah	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. P. Henry.
Dent	Clearwater	1,350	5	60.0	.....	99	1†	31	25	53	1.83	.....	0.50	0	6	11	14	5	.....	Emil Schuessler.
Driggs	Fremont	6,097	4	50.6	.....	83	2	17	18	46	0.84	.....	0.30	T.	5	7	9	14	sw.	Walter H. Durrant.
Edie	do	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. B. Edie.
Emmet	Canyon	2,350	4	57.4	.....	87	12	30	17	49	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. P. Kar.
Forney	Lemhi	.....	14	47.8	− 3.3	83	12	17	18	53	2.08	+ 1.01	1.06	0	2	2	11	17	.....	M. B. Merritt.
Garden Valley	Boise	3,600	5	.....	.....	.....	.....	.....	.....	.....	0.14	.....	0.14	0	1	8	22	0	.....	Mrs. Gertrude M. R
Garnet	Elmore	2,575	12	65.0	− 1.0	101	1	36	27†	48	0.00	− 0.32	0.00	0	0	10	12	8	w.	Asa A. Kenison.
Glenns Ferry	do	2,569	3	61.5	.....	101	2	24	27	58	0.00	.....	0.00	0	0	20	3	7	.....	I. E. Perkins.
Gooding	Lincoln	3,572	2	58.2	.....	96	1	24	27	52	T.	.....	T.	0	0	17	11	2	w.	John Krall, jr.
Grand Forks	Shoshone	3,000	3	50.9	.....	93	1	20	25	55	2.58	.....	0.94	0	6	12	10	8	w.	Henry Kottkey.
Grandview	Owyhee	.....	2	59.0	.....	97	1	19	26	55	0.00	.....	0.00	0	0	17	12	1	nw.	N. G. Massey.
Grimes Pass	Boise	5,200	2	.....	.....	.....	.....	.....	.....	.....	0.55	.....	0.24	0	6	.....	.....	.....	.....	Joseph M. Clarke.
Gurley	Owyhee	2,381	3	63.3	.....	98	1	34	18†	45	0.05	.....	0.02	0	4	25	5	0	w.	Fred Perry.
Hailey	Blaine	5,347	9	54.4	− 1.6	89	1	27	17†	42	0.03	− 0.86	0.03	0	1	8	18	4	ne.	U. S. Forest Service.
Hotspring	Owyhee	2,752	6	62.3	.....	96	1	34	17	46	0.17	.....	0.17	0	1	14	12	4	.....	J. M. Waterhouse.
Idaho Falls	Bonneville	4,742	18	54.8	− 2.0	90	2	23	18	48	0.67	− 0.14	0.51	0	5	13	7	10	.....	Dr. T. M. Bridges.
Indian Valley	Adams	2,999	3	.....	.....	.....	.....	.....	.....	.....	0.10	.....	0.10	0	1	19	5	6	s.	A. M. Henke.
Irwin	Bonneville	6,500	2	52.8	.....	88	4	17	18	56	1.11	.....	0.76	0	2	19	6	5	e.	Eva Johnston.
Kellogg	Shoshone	2,305	7	53.6	.....	94	2	24	25	50	1.72	.....	0.35	0	9	15	0	15	.....	W. McM. Huff.
Kirkham	Boise	4,200	2	.....	.....	.....	.....	.....	.....	.....	0.35	.....	0.35	0	1	6	19	5	w.	Mrs. Josie B. West.
Kooskia	Idaho	1,261	3	.....	.....	97c	1	.....	.....	.....	2.00	.....	1.00	0	3	.....	.....	.....	.....	U. S. Forest Service.
Lakeview	Bonner	2,250	13	54.0	− 1.9	84	1†	30	26	33	2.26	+ 0.52	0.65	0	7	13	4	13	sw.	E. D. Faust.
Landore	Adams	5,300	7	49.4	.....	83	1†	25	24	38	0.41	.....	0.17	T.	4	18	10	2	.....	Mrs. Emma L. Brown.
Lewiston	Nez Perce	757	11	61.2	− 2.3	95	1	34	25	38	0.52	− 0.13	0.29	0	5	9	16	5	e.	U. S. Weather Bureau.
Little Camas	Elmore	5,000	3	.....	.....	.....	.....	.....	.....	.....	0.07	.....	0.05	0	2	5	21	4	w.	Solon McCoy.
Long Gulch	do	4,500	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Elizabeth A. Hjort.
Loon Creek	Custer	6,000	7	45.8	.....	82	1	15	17	52	0.54	.....	0.18	0	9	4	9	17	.....	Mrs. Mary Williams.
Mackay	do	5,897	4	54.3	.....	86	10	26	18†	49	0.44	.....	0.15	0	4	16	5	9	nw.	U. S. Forest Service.
Meadows	Adams	3,950	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. A. Hackney.

TABLE 1.—*Climatological data for September, 1911. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Idaho—Continued.																				
Meridian	Ada	2,657	1	59.3	.....	93	1†	30	17†	47	0.13	.....	0.09	0	3	13	11	6	nw.	A. W. Garrett.
Mesa	Adams	3,275	2	59.2[a]	.....	93	2	18	16	48[b]	T.	.....	T.	0	0	9	0	21	n.	I. S. Carter.
Middle Fork	Idaho	1,250	2	57.4[d]	.....	.....	.....	32[d]	25	42[d]	2.30	.....	0.90	0	4	.....	.....	.....	.....	Jos. McGhee.
Milner	Twin Falls	4,110	7	59.3	.....	94	2	30	18†	48	0.85	.....	0.80	0	2	16	8	6	w.	James K. Young.
Moscow	Latah	2,748	20	55.2	− 2.2	93	2	30	24	40	0.86	− 0.36	0.50	0	3	8	16	6	nw.	University of Idaho.
Mountainhome	Elmore	3,150	6	58.0	.....	97	1	22	27	53	T.	.....	T.	0	0	16	14	0	nw.	Mrs. Ellen Manion.
Murtaugh	Twin Falls	.....	5	55.8	.....	91	2	25	18	52	0.12	.....	0.12	0	1	.....	.....	.....	w.	J. E. Steinour.
Nez Perce	Lewis	3,082	2	54.0	.....	90	2	24	23†	49	1.74	.....	0.58	0	8	16	10	4	.....	P. Mitchell.
Oakley	Cassia	4,700	18	59.6	+ 0.1	94	4	31	18	49	0.30	− 0.47	0.20	0	2	7	22	1	.....	John Adams.
O'Hara Bar	Idaho	1,400	2	56.2	.....	89	1	30	25	41	1.76	.....	0.61	0	9	6	19	5	.....	J. D. Agnew.
Orofino	Clearwater	1,027	7	59.2	.....	98	2	28	25	48	1.29	.....	0.69	0	5	3	25	2	.....	Geo. Alteneder.
Payette	Canyon	2,159	20	59.8	− 1.9	97	2	29	18†	49	T.	− 0.57	T.	0	0	19	5	6	n.	E. F. Allen.
Peaceful Valley	....do.	2,325	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Newton.
Pebble	Bannock	5,277	3	52.6	.....	97	1	16	18†	53	1.70	.....	0.90	0	8	12	11	7	sw.	Mrs. Fannie Say.
Pierson	Custer	7,000	3	53.9	.....	84	4	18	8†	52	T.	.....	T.	0	0	19	2	9	s.	David P. Clarke.
Pleasant Valley	Ada	3,000	4	58.8	.....	96	1	27	23	45	0.02	.....	0.02	0	1	22	5	3	nw.	C. E. Friedrich.
Pocatello	Bannock	4,483	12	59.1	− 1.6	90	2	31	18	39	0.60	− 0.28	0.32	0	7	12	11	7	se.	U. S. Weather Bureau.
Pocatello Nursery	....do.	5,396	5	53.3	.....	87	2	22	18	48	1.33	.....	0.59	0	4	19	3	8	sw.	P. T. Wrensted.
Poplar	Bonneville	.....	1	59.4	.....	86	1	26	17	40	1.04	.....	0.35	0	4	9	18	3	s.	C. M. Lawrence.
Porthill	Bonner	1,665	22	51.7	− 2.1	81	1	27	25	32	3.94	+ 1.87	0.80	0	7	9	4	17	.....	H. A. French.
Pyle Creek	Boise	3,100	2	.....	.....	.....	.....	.....	.....	.....	0.08	.....	0.05	0	2	16	11	9	s.	P. V. Smith.
Richfield	Lincoln	.....	2	57.6	.....	94	1	25	18	49	0.17	.....	0.14	0	2	14	13	3	w.	Idaho Irrigation Co.
Roseberry	Boise	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. H. S. Barstow.
Roseworth	Twin Falls	.....	2	.....	.....	.....	.....	.....	.....	.....	0.06	.....	0.03	0	2	3	26	1	nw.	D. B. Hartwell.
Rupert	Lincoln	4,204	5	56.3	.....	88	1†	27	18	49	0.10	.....	0.10	0	1	20	3	7	w.	Will Parry.
St. Maries	Kootenai	2,263	15	53.8	− 3.3	89	2	25	25	42	1.16	− 0.29	0.41	0	6	7	12	11	sw.	J. S. Turnbull.
Salmon	Lemhi	4,040	6	53.2	.....	87	1	28	18†	43	1.31	.....	0.52	0	7	15	13	2	w.	B. C. d'Easum.
Salmon River Dam	Twin Falls	.....	4	59.0[b]	.....	91[b]	2	29[b]	18	44[b]	0.13	.....	0.08	0	3	14	11	5	nw.	P. W. Farrar.
Sandpoint	Bonner	2,086	1	52.8	.....	89	2	21	25	44	2.22	.....	0.71	0	10	8	9	13	n.	J. H. Edgerton.
Sheep Hill	Boise	5,000	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clifford M. Gardner.
Shoshone	Lincoln	3,908	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Zell Truman.
Silver City	Owyhee	6,280	4	.....	.....	.....	.....	.....	.....	.....	0.22	.....	0.10	0	3	13	9	8	sw.	A. D. Bradfield.
Soldier Creek	Blaine	.....	1	52.2	.....	84	1	25	17†	41	0.01	.....	0.01	0	1	16	11	3	nw.	J. E. Minear.
Spirit Lake	Kootenai	.....	2	54.1	.....	93	2	21	25	52	2.25	.....	0.79	0	9	16	7	7	ne.	M. C. Krause.
Springfield	Bingham	4,420	3	55 8	.....	92	2	22	18	49	0.26	.....	0.21	0	2	9	14	7	sw.	Mrs. W. A. Edwards.
Sugar	Fremont	.....	4	52.0	.....	83	2	21	16	46	1.23	.....	0.56	0	5	12	10	8	sw.	Utah-Idaho Sugar Co.
Sunnyside	Elmore	.....	2	59.0	.....	95	1	29	17	45	T.	.....	T.	0	0	.....	.....	.....	nw.	E. A. Wilmot.
Tripod Mountain	Boise	4,300	2	.....	.....	.....	.....	.....	.....	.....	0.37	.....	0.26	0	2	15	11	4	.....	Mrs. Verna Paddock.
Twin Falls	Twin Falls	3,825	6	57.7	.....	94	1	26	19	55	0.10	.....	0.10	0	1	12	15	3	w.	J. A. Waters.
Vernon	Fremont	.....	14	53.6	− 1.0	86	1	22	18	45	0.95	+ 0.06	0.47	0	4	9	18	3	sw.	A. M. Slatery.
Wallace	Shoshone	2,728	4	52.6	.....	92	2	28	25	41	2.04	.....	0.59	0	9	.....	.....	.....	e.	U. S. Weather Bureau.
Weiser	Washington	2,114	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jos. B. Estabrook.
Wendell	Lincoln	3,400	3	60.2	.....	99	1	26	27	52	T.	.....	T.	0	0	15	10	5	w.	Chas. L. Dingler.
Washington.																				
Aberdeen	Chehalis	162	20	55.5	− 2.1	76	2	35	25	39	3.98	− .63	.93	0	15	5	24	1	w.	C. S. Weatherwax.
Anacortes	Skagit	60	17	55.2	.....	78	1	37	24†	34	2.71	+ .96	.67	0	13	4	22	4	.....	Douglas Allmond.
Baker	....do.	200	5	58.0	.....	80	1	36	25	37	4.82	.....	.81	0	13	7	7	16	.....	Robt. M. White.
Bellingham	Whatcom	60	16	56.4	+ 0.2	76	11	33	24†	38	3.18	+ .53	.80	0	12	18	7	5	.....	Sanford B. Mayhew.
Bellingham, near	....do.	107	....	54.8	.....	74	1	32	24†	30	3.85	.....	.94	0	14	10	10	10	.....	U. S. Bureau of Plant Industry.
Beverly	Grant	545	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blaine	Whatcom	57	14	54.6	+ 0.7	73	1	31	25†	34	3.46	− .07	.50	0	16	5	17	8	se.	John W. Sheets.
Blewett	Chelan	2,200	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Burmeister.
Bremerton	Kitsap	30	....	.....	.....	.....	.....	.....	.....	.....	2.08	.....	.84	0	10	.....	.....	.....	.....	U. S. Navy Yard.
Brewster	Okanogan	1,620	1	58.0	.....	93	2	34	23†	33	1.18	.....	.57	0	7	15	9	6	sw.	Mrs. H. F. Bertram.
Bumping Lake	Yakima	3,400	....	49.2	.....	85	2	28	24†	38	1.47	.....	.83	0	11	7	8	15	.....	U. S. Reclamation Service.
Cedar River	King	535	4	.....	.....	.....	.....	.....	.....	.....	5.58	.....	1.61	0	15	5	5	20	.....	George Landsburg.
Centralia	Lewis	212	18	56.8	− 1.6	81	1	32	25	38	4.36	+ 1.80	1.57	0	12	7	12	11	s.	I. S. Turner.
Cheney	Spokane	2,351	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	State Normal School.
Clealum	Kittitas	1,930	12	51.7	− 3.8	92	2	23	24	48	2.85	+ 1.89	.89	0	11	17	5	8	nw.	J. A. Balmer.
Clearbrook	Whatcom	140	8	54.4	.....	81	1	27	26	40	5.39	.....	1.13	0	16	5	13	12	s.	George Gibbs.
Colfax	Whitman	2,300	22	55.0	− 1.2	94	2	22	24†	53	1.11	− .01	.90	0	3	.....	.....	.....	.....	I. B. Doolittle.
Colville	Stevens	1,635	11	55.4	− 1.1	95	2	23	25	53	1.28	+ .49	.42	0	9	8	5	17	sw.	W. L. Sax.
Conconully	Okanogan	2,300	11	54.7	− 1.5	87	2	26	25	40	2.09	+ 1.10	.76	0	10	14	5	11	.....	Wm. Baines.
Cowiche	Yakima	1,874	11	56.6	.....	89	2	36	23	29	1.99	.....	.82	0	9	18	9	3	nw.	U. S. Reclamation Service.
Crescent	Lincoln	2,250	11	54.8[a]	− 2.2	91[a]	2	25[a]	25	40	.68	− .23	.50	0	3	20	9	1	.....	Otto Wollweber.
Davenport	....do.	2,450	2	54.0	.....	91	2	29	23†	37	1.11	.....	.40	0	7	16	6	8	.....	James L. Thayer.
Dayton	Columbia	1,700	25	57.4	− 2.5	85	1†	34	26	36	1.87	+ .79	.74	0	6	10	17	3	.....	W. W. Hendron.
Deer Park	Spokane	2,050	3	54.0	.....	94	2	23	23†	54	0.97	.....	.75	0	6	8	10	12	sw.	James Mills.
Detroit	Mason	30	3	57.1	.....	85	1	34	25	38	3.20	.....	1.10	0	13	6	14	10	s.	Walter O. Eckert.
Dixie	Walla Walla	5,000	2	.....	.....	.....	.....	.....	.....	.....	4.25	.....	1.50	0	9	7	14	9	sw.	T. Z. Andrews.
Dryden	Chelan	960	1	.....	.....	.....	.....	.....	.....	.....	1.79	.....	.62	0	11	15	10	5	nw.	Valley Power Co.
Duckabush	Jefferson	380	3	52.9[a]	.....	.....	.....	32[a]	24†	37[a]	.....	.....	.....	0	.....	2[a]	11[a]	3[a]	.....	E. G. Newman.
East Sound	San Juan	500	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. E. Harrison.
Ellensburg	Kittitas	1,571	23	55.1	− 1.3	95	2	26	25	48	2.76	+ 2.28	.62	0	9	17	5	8	.....	R. L. Barnes.
Ephrata	Grant	1,265	8	59.3	.....	92	2	40	17†	35	.....	.....	.....	0	.....	10	18	2	.....	T. J. Cook.
Forks	Clallam	480	2	.....	.....	.....	.....	.....	.....	.....	5.98	.....	1.14	0	17	6	4	20	sw.	.....
Fort Simcoe	Yakima	1,427	17	.....	.....	91	1	29	27	41	3.85	+ 3.48	1.80	0	11	18[a]	8[a]	3[a]	.....	Dr. F. H. Monk.
Gerome	Stevens	2,900	2	57.0	.....	90	2	30	25	39	1.24	.....	.46	0	8	11	14	5	s.	J. H. C. Scurlock.
Goat Lake	Snohomish	2,900	2	.....	.....	.....	.....	.....	.....	.....	8.25	.....	1.65	0	17	.....	.....	.....	.....	C. M. Mackintosh.
Gold Basin	....do.	1,360	....	52.2	.....	80	1	30	30	38	7.51	.....	1.20	0	17	10	5	15	w.	U. S. Forest Service.
Gold Creek	Yakima	2,600	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Anderson.
Goldendale	Klickitat	1,600	5	54.8	.....	88	1	32	23†	35	2.57	+ 1.81	1.18	0	7	8	19	3	w.	Klickitat County Abstract Co.
Granite Falls	Snohomish	397	8	.....	.....	.....	.....	.....	.....	.....	4.83	.....	1.12	0	15	4	11	15	nw.	C. H. Cleaver.
Grays River	Wahkiakum	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. B. Martin.
Hatton	Adams	1,100	6	58.6	.....	98	2	28	23	41	.92	.....	.51	0	4	9	6	15	sw.	Dr. A. V. Marion.
Huntsville	Columbia	1,400	3	.....	.....	.....	.....	.....	.....	.....	2.26	.....	1.00	0	6	.....	.....	.....	.....	Mrs. S. J. Hill.
Irene Mountain	Okanogan	3,015	2	.....	.....	.....	.....	.....	.....	.....	1.43	.....	.40	0	14	5	15	10	sw.	Mrs. Manda S. Shain.
Kennewick	Benton	368	16	62.7	− 1.6	100	1†	31	23	54	1.52	+ 1.21	.91	0	7	16[b]	8[b]	4[b]	.....	R. E. Reed.
Kettle Falls	Stevens	1,265	2	57.4	.....	94	2	28	25	46	1.29	.....	.48	0	8	10	13	7	.....	Harry H. Cole.
Kiona	Benton	430	6	60.9	.....	95	2	34	25	40	2.79	.....	1.03	0	6	22	6	2	sw.	Dr. F. S. Hedger.
Kosmos	Lewis	775	5	55.2	.....	84	1	31	25	37	8.04	.....	1.47	0	18	1	17	12	ne.	J. A. Ulsh.
La Center	Clarke	250	14	53.0	− 5.8	82	1	32	23†	35	4.85	+ 2.14	1.35	0	16	7	18	5	sw.	Joseph Brothers.

TABLE 1.—*Climatological data for September, 1911. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
***Washington*—Contd.**																				
La Crosse	Whitman	1,400	2	56.3	.....	92	1	24	23†	45	1.25	.....	.96	0	6	16	8	6	w.	M. E. Schreck.
Lake Clealum	Kittitas	2,171	2	.....	.....	.....	.....	.....	.....	.....	3.58	.....	.94	0	19	5	8	17	nw.	U. S. Reclamation Service.
Lake Kachess	do.	2,235	3	52.1	.....	83	1	28	25	37	4.90	.....	1.11	0	14	7	13	10	e.	Do.
Lake Keechelus	do.	2,479	3	.....	.....	.....	.....	.....	.....	.....	6.41	.....	1.19	0	16	3	12	15	w.	Do.
Lakeside	Chelan	1,116	20	59.9	− 2.0	90	1	35	25	33	0.64	+ .14	.18	0	7	5	15	10	w.	W. H. Van Meter.
Laurel	Klickitat	1,900	2	.....	.....	.....	.....	.....	.....	.....	3.90	.....	1.31	0	9	6	23	1	w.	Mrs. Minnie E. Strout.
Laurier	Ferry	1,644	1	56.5	.....	96	2	23	25	52	1.36	.....	.73	0	9	6	5	19	w.	Mrs. J. S. Myers.
Lester	King	1,614	7	54.0	.....	82	1	29	24	39	5.99	.....	.80	0	17	8	0	22	w.	Augustine Smith.
Lone Tree	Chehalis	14	2	56.4	.....	65	24	45	22	15	2.44	.....	.49	0	13	4	20	6	nw.	U. S. Engineer Corps.
Longmires Springs	Pierce	2,800	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	National Park ranger.
Lost Creek	Okanogan	3,125	2	.....	.....	.....	.....	.....	.....	.....	1.23	.....	.33	0	7	6	16	8	se.	P. H. Leese.
Lucerne	Chelan	1,100	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Barbara Schearer.
McConihe	Grant	1,072	....	59.5	.....	97	2	35	23†	43	1.41	.....	.98	0	7	14	6	10	n.	Paul M. McConihe.
McCumbers Ranch	Yakima	2,182	2	.....	.....	.....	.....	.....	.....	.....	4.20	.....	1.70	0	9	9	14	7	sw.	Mrs. Mary McCumber.
Moses Lake	Grant	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. C. Ward.
Mottinger	Benton	307	11	63.5	− 3.0	96	1†	40	25	35	.96	+ .40	.40	0	7	23	2	5	w.	G. H. Mottinger.
Mount Pleasant	Clallam	500	....	52.6	.....	75	1	37	23†	22	2.49	.....	.93	0	11	8	5	17	nw.	Wm. M. Dorr.
Moxee	Yakima	1,000	19	58.8	− 1.1	96	2	30	25	43	1.87	+ 1.45	.69	0	11	15	7	8	nw.	H. B. Scudder.
Newport	Stevens	2,400	1	52.9	.....	92	2	23	25	51	1.77	.....	.51	0	10	8	18	4	sw.	Charles M. Talmadge.
North Head	Pacific	211	9	54.8	− 1.4	64	25	47	30	13	2.15	+ .30	.65	0	16	6	9	15	nw.	U. S. Weather Bureau.
Northport	Stevens	1,350	12	56.2	.....	95	2	31	24	46	1.47	− .13	.55	0	13	14	2	14	.....	Frank Janneck.
North Yakima	Yakima	1,070	2	58.5	.....	90	1†	37	16†	30	2.21	.....	.86	0	8	17	6	7	nw.	Albert Bender.
Nutland	Klickitat	.....	2	59.4	.....	92	1	36	24	35	1.59	.....	.52	0	8	.....	.....	.....	.....	Ruth J. Shepard.
Odessa	Lincoln	1,540	8	56.4	.....	93	2	29	22†	46	1.32	.....	.92	0	4	14	13	3	sw.	Wm. U. Neeley.
Olga	San Juan	50	21	55.2	− 0.3	71	1	41	30	19	2.90	+ .67	.68	0	14	9	10	11	nw.	Cecil S. Willis.
Olympia	Thurston	200	33	55.8	− 1.1	85	1	34	24	37	3.84	+ 1.05	1.04	0	15	7	8	15	nw.	M. O'Connor.
Omak	Okanogan	850	2	60.4	.....	97	2	25	23	47	.15	.....	.08	0	3	10	9	11	n.	Saint John Umbrite.
Oroville	do.	922	2	59.6	.....	94	2	27	23	38	.82	.....	.45	0	6	8	20	2	n.	Mrs. E. M. Stansbury.
Parker	Yakima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Peola	Garfield	5,000	2	.....	.....	.....	.....	.....	.....	.....	1.69	.....	.64	0	9	14	11	4	nw.	Samuel Gruell, sr.
Pomeroy	do.	1,500	19	57.9	− 3.9	89	2	30	25	40	1.71	+ .66	1.25	0	4	10	17	3	w.	Peter McClung.
Port Crescent	Clallam	259	16	50.3	− 2.2	66	11	32	26	25	2.59	+ .29	.93	0	12	3	14	13	s.	U. S. Weather Bureau.
Port Townsend	Jefferson	80	21	56.2	− 0.8	77	1	41	23	24	3.04	+ 1.84	.93	0	9	11	4	15	nw.	Frank Plummer.
Pullman	Whitman	2,550	19	56.7	− 2.0	92	2	29	24	38	.92	− .42	.50	0	5	16	11	3	sw.	State Agricultural College.
Queets River	Chehalis	.....	.....	54.9[b]	.....	76[b]	3†	34[a]	24†	32[b]	3.65	.....	1.09	0	19	16	5	9	w.	C. A. Bullard.
Quinault	do.	300	4	56.6	.....	89	1	36	25†	44	8.46	.....	2.30	0	18	6	14	10	w.	A. V. Higley.
Republic	Ferry	2,628	11	53.2	− 0.9	92	2	20	25	51	1.19	.....	.33	0	14	6	5	19	nw.	George B. Stocking.
Rex Creek	Chelan	1,135	4	58.6[b]	.....	87[b]	1	39[b]	24†	31[b]	2.55	.....	.80	0	7	5[b]	11[b]	12[b]	nw.	James W. Nicol.
Ritzville	Adams	1,825	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Agent N. P. Ry.
Rock Lake	Whitman	1,910	5	59.8[a]	.....	93[a]	2	40[a]	22	30[a]	1.27	.....	.81	0	2	15	8	7	sw.	P. M. Ramsey.
Rosalia	do.	2,425	19	54.6	− 1.6	90	2	30	23	36	0.81	− .35	.55	0	7	15	6	9	sw.	Hans Mumm.
Russells Ranch	Yakima	2,870	2	.....	.....	.....	.....	.....	.....	.....	3.90	.....	1.10	0	10	14	6	10	w.	Miss Maggie M. Russell.
Seattle	King	123	20	57.1	− 0.8	75	1	42	24	18	3.27	+ 1.34	1.64	0	10	3	10	17	s.	U. S. Weather Bureau.
Sedro-Woolley	Skagit	38	14	55.6	− 1.9	79	2	33	26	32	5.27	+ 1.98	1.50	0	15	7	13	10	.....	Mrs. H. L. Devin.
Sixprong	Klickitat	1,240	4	59.5	.....	94	1	37	29	33	1.51	.....	.57	0	7	16	9	5	sw.	C. E. Comstock.
Skagit Power Dam	Whatcom	510	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Skagit Power Co.
Snohomish	Snohomish	100	17	58.7[1]	+ 1.5	80[1]	1†	38[1]	19	32[1]	2.01	− 1.17	.85	0	10	.....	.....	.....	.....	Warren Hodge.
Snoqualmie Falls	King	667	12	56.0	− 1.3	82	1	32	24†	37	5.82	+ 2.76	1.10	0	17	11	6	13	.....	O. N. Wiswell.
Snyders Ranch	Okanogan	2,200	2	52.4[a]	.....	92[a]	2	23[a]	23†	52	1.58	.....	.41	0	9	7[a]	11[a]	11[a]	e.	G. M. Snyder.
South Bend	Pacific	.....	16	55.7	− 3.6	79	1	38	24†	32	3.03	− .26	.68	0	16	11	10	9	w.	Mrs. Winifred E. Buckingham.
Spokane	Spokane	1,943	30	56.6	− 2.2	92	2	31	25	36	.75	− .26	.47	0	9	6	9	15	sw.	U. S. Weather Bureau.
State University	King	170	2	56.4	.....	77	1	41	24	19	2.39	.....	.88	0	11	10	6	14	s.	University of Washington.
Stokes Ranch	Okanogan	2,670	2	.....	.....	.....	.....	.....	.....	.....	1.33	.....	.49	0	6	18	7	5	nw.	Charles W. Gunn.
Sumner	Pierce	77	3	52.8[d]	.....	75	1	32[e]	24	30[e]	4.79	.....	1.78	0	16	10	7	13	sw.	H. E. Thompson.
Sunnyside	Yakima	740	16	58.3	− 2.4	93	2	32	23†	40	2.31	+ 1.85	.78	0	7	11	15	4	nw.	U. S. Reclamation Service.
Tacoma	Pierce	213	25	55.8	− 1.8	74	2	37	23	24	4.70	+ 2.23	1.54	0	14	4	6	20	sw.	U. S. Weather Bureau.
Tatoosh Island	Clallam	86	26	52.6	− 0.4	61	1	43	24	12	4.14	− 2.00	1.11	0	14	6	8	16	s.	Do.
Tieton	Yakima	2,000	2	52.5	.....	90	2	29	23†	39	4.14	.....	1.08	0	13	10	8	12	w.	U. S. Reclamation Service.
Tonasket	Okanogan	945	....	60.4	.....	93	2	31	23	34	.83	.....	.29	0	5	10	8	12	n.	E. H. Twight.
Touchet	Walla Walla	556	4	59.8	.....	93	2	27	25	44	0.81	.....	.45	0	4	14	14	2	sw.	D. W. Dorrance.
Touchet Ridge	Columbia	2,500	2	.....	.....	.....	.....	.....	.....	.....	5.28	.....	1.28	0	7	3	20	7	sw.	R. H. King.
Trinidad	Douglas	900	7	62.6	.....	97	2	41	23†	36	1.58	.....	.70	0	4	18	7	5	nw.	J. C. Wheeler.
Vancouver	Clarke	100	36	53.6	− 2.3	84	1	35	24	35	4.88	+ 3.17	1.23	0	13	6	11	13	nw.	A. A. Quarnberg.
Vashon Island	King	40	22	55.4	− 1.8	73	2	40	23	23	3.29	+ 1.10	1.30	0	13	8	4	18	s.	Miss Gertrude McClintoch.
Wahluke	Grant	410	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. C. Koppen.
Wallace	Okanogan	4,000	2	.....	.....	.....	.....	.....	.....	.....	2.65	.....	1.05	0	11	8	12	10	s.	G. A. Wallace.
Walla Walla	Walla Walla	1,000	27	61.2	− 4.2	93	1	42	25	27	1.45	+ .52	.56	0	8	13	13	4	s.	U. S. Weather Bureau.
Washougal	Skamania	650	11	55.7	− 4.6	79	1	36	24	30	6.09	+ 3.44	1.42	0	15	14	8	8	w.	F. M. Grout.
Waterville	Douglas	2,624	21	53.5[a]	− 3.2	92[a]	2	26[a]	23	41[a]	1.50	+ 1.01	.39	0	8	16[a]	3[a]	10[a]	w.	O. R. Hopewell.
Wenatchee, near	Chelan	1,169	12	55.8	− 4.5	89	2	36	23	28	2.60	+ 1.79	.76	0	11	10	12	8	w.	George A. Pitcher.
White Salmon	Klickitat	325	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. W. J. Reckers.
Wilbur	Lincoln	2,203	12	56.1	− 0.7	95	2	25	22	45	1.06	+ .37	.50	0	6	13	5	12	sw.	R. J. Reeves.
Wind River	Skamania	1,300	....	54.6	.....	84	1	31	23	47	7.87	.....	2.95	0	11	8	4	18	w.	U. S. Forest Service.
Winthrop	Okanogan	1,765	....	54.3[c]	.....	94[a]	2	25[c]	25	43[c]	1.92	.....	.73	0	7	13[b]	2[b]	13[b]	.....	Methow Trading Co.
Yale	Cowlitz	375	4	57.2	.....	83	1	39	23†	33	8.63	.....	1.80	0	15	6	13	11	sw.	L. F. Williams.
Zillah	Yakima	800	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. G. Ware.
Zindel	Asotin	715	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. W. Zindel.
Oregon.																				
Albany	Linn	212	30	57.2	− 2.6	87	1	36	24	34	4.23	+ 2.42	1.42	0	14	8	4	18	n.	F. M. French.
Ashland	Jackson	1,903	28	57.0	− 4.7	84	1	38	28	36	1.85	+ 1.17	0.43	0	7	4	18	8	nw.	G. G. Eulianks.
Astoria	Clatsop	16	51	57.2	− 2.7	73	25	45	24†	25	2.81	− 1.35	0.60	0	15	12	8	10	sw.	Irving Club.
Baker	Baker	3,466	21	53.0	− 4.0	87	1	29	18	39	0.31	− 0.45	0.16	0	4	18	8	4	s.	U. S. Weather Bureau.
Bay City	Tillamook	14	17	54.0	− 2.5	72	1	33	23†	32	1.98	− 2.65	0.45	0	12	11	10	9	nw.	John O. Bozorth.
Beech Creek	Grant	4,500	....	47.6	.....	80	1	26	24	40	0.63	.....	0.23	0	5	16	8	6	n.	G. G. Carson.
Bend	Crook	3,629	29	50.1	.....	81	1	25	24	40	2.65	.....	0.75	0	9	19	8	3	w.	Bend Bulletin.
Black Butte	Lane	1,200	10	51.6	.....	73	1	34	25	34	3.80	.....	1.45	0	11	15	3	12	nw.	Wm. Harris.
Blalock	Gilliam	237	13	63.4	− 4.8	99	2	40	26	31	1.99	+ 1.56	0.74	0	7	19	6	5	w.	Geo. W. Long.
Brogan	Malheur	2,000	....	63.9	.....	96	1	40	30	33	0.35	.....	0.35	0	1	19	9	2	e.	A. B. Cox.
Burns	Harney	4,157	20	51.4	− 2.5	90	1	19	16	48	0.55	− 0.26	0.30	0	5	14	10	6	.....	J. C. Welcome, jr.
Cascade Locks	Hood River	100	21	58.0	− 2.8	81	1	38	24	30	5.67	+ 2.13	1.48	0	15	11	5	14	w.	Val. W. Tomkins.
Cazadero	Clackamas	503	2	57.4	.....	86	1	32	19	38	6.50	.....	1.52	0	15	5	2	23	nw.	Alf. Drill.
Cliff	Lake	4,300	4	47.8	.....	84	1	13	18	58	1.31	.....	0.35	0	8	10	9	11	nw.	John C. Green.
Condon	Gilliam	2,884	4	51.8	.....	84	2	30	24	33	2.00	.....	0.71	0	10	8	12	10	nw.	C. H. Williams.

TABLE 1.—*Climatological data for September, 1911. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oregon—Continued.																				
Corvallis	Benton	266	23	54.0	− 6.1	87	1	33	17	36	4.27	+ 2.89	1.22	0	17	9	6	15	w.	Oreg. Agr. College.
Crescent	Klamath	4,400	....	54.2	.....	78	1†	33	28	33	2.82	.....	1.08	T.	11	14	3	13	n.	A. M. Caisse.
Dayville	Grant	2,200	17	55.8	− 3.6	90	1	27	24	46	0.95	+ 0.18	0.43	0	7	13	13	4	nw.	Dr. J. Cambell-Martin.
Deadwood	Lane	350	1	57.4	.....	86	1	40	25	36	4.40	.....	1.60	0	10	12	6	12	nw.	Jos. Slemmons.
Doraville	Columbia	600	10	57.8	.....	81	1	43	13	28	3.06	.....	0.53	0	19	2	13	15	nw.	Jos. Hackenberg.
Drain	Douglas	300	9	57.8	.....	87	1	35	24	39	4.29	.....	1.17	0	16	10	12	8	nw.	Ira Wimberly.
Echo	Umatilla	625	7	61.1	.....	97	1	32	24	39	1.05	.....	0.44	0	5	17	7	6	w.	R. B. Stanfield.
Ella	Morrow	830	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Carl F. Troedson.
Eugene	Lane	449	21	56.3	− 3.7	83	1	39	18†	31	4.91	+ 3.29	1.36	0	13	6	17	7	nw.	F. L. Barker.
Fairview	Coos	142	15	52.8	.....	71	4	37	16	27	2.64	.....	0.45	0	11	17	0	13	sw.	Wm. Bettys.
Falls City	Polk	355	14	56.0	− 2.0	88	1	36	22†	41	4.86	+ 2.37	1.28	0	13	13	12	5	e.	Chas. F. Vick.
Forest Grove	Washington	220	22	57.2	− 2.3	78	9	33	23	36	4.56	+ 3.02	1.02	0	10	0	13	17	n.	Pacific University.
Gardiner	Douglas	72	21	59.6	+ 1.1	76	7	40	23	24	4.17	+ 1.44	1.40	0	10	11	4	15	.....	J. S. Gray.
Glendale	....do	1,441	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. J. Simpson.
Glenora	Tillamook	575	20	55.8	− 1.5	88	1	31	25	42	5.30	− 0.21	2.01	0	13	10	6	14	sw.	Mrs. Jennie A. Reeher.
Gold Beach	Curry	40	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Granite	Grant	4,680	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. N. Ford.
Grants Pass	Josephine	956	23	58.5	− 2.5	97	17	32	18	50	1.45	+ 0.56	0.50	0	5	13	7	10	sw.	John B. Paddock.
Grass Valley	Sherman	2,381	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Agent O. W. R. & N. Co.
Headworks	Clackamas	719	9	49.1	.....	80	1	29	18	28	7.60	+ 4.16	1.33	0	11	8	12	10	se.	Portland Waterworks.
Heppner	Morrow	1,950	21	55.8	− 4.2	88	1	33	24	37	1.34	+ 0.29	0.46	0	7	11	13	6	nw.	Frank Gilliam.
Hermiston	Umatilla	451	4	61.0	.....	94	1	26	23	49	0.66	.....	0.23	0	6	15	8	7	.....	C. W. Kellogg.
Hermoso Rio	Crook	2,300	....	51.8	.....	88	1	28	24	40	2.41	.....	0.72	0	9	17	9	4	w.	Carl T. Hubbard.
Hood River	Hood River	300	21	56.2	− 3.4	82	2	33	23	38	3.65	+ 2.16	1.50	0	5	16	5	9	w.	H. L. Hasbrouck.
Huntington	Baker	2,165	10	63.0	.....	98	1	34	26	44	T.	− 0.47	T.	0	0	5	25	0	e.	L. Connell.
Jacksonville	Jackson	1,640	23	58.8	− 3.4	86	1	37	18	43	1.17	+ 0.26	0.31	0	6	18	5	7	.....	E. Britt.
Joseph	Wallowa	4,400	22	52.8	− 0.6	87	1	18	26	43	1.33	+ 0.21	0.62	0	6	2	14	14	nw.	F. F. McCully.
Kerby	Josephine	1,200	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. T. Canfield.
Klamath Agency	Klamath	4,169	3	48.2	.....	88	1	22	9†	60	0.70	.....	0.70	0	1	18	4	8	nw.	Edson C. Watson.
Klamath Falls	....do	4,100	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Heileman.
La Grande	Union	2,784	24	55.5	− 3.5	94	1	25	24	47	0.76	− 0.34	0.25	0	9	13	12	5	nw.	W. A. Worstell.
Lakeview	Lake	4,825	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bert Rice.
McKenzie Bridge	Lane	1,400	10	55.1	− 2.9	85	1	27	24	50	6.34	+ 3.96	1.52	0	14	10	3	17	sw.	Geo. Frissell.
McMinnville	Yamhill	182	24	56.4	− 2.9	88	1	34	30	37	3.92	+ 1.88	1.50	0	11	7	17	6	s.	M. E. Pettit.
Marshfield	Coos	34	10	55.6	− 1.7	68	3†	37	24	28	3.01	.....	0.90	0	14	.....	.....	.....	nw.	U. S. Weather Bureau.
Medford	Jackson	1,425	....	59.6	.....	89	1	34	18	49	1.13	.....	0.47	0	7	13	12	5	nw.	Do.
Merrill	Klamath	4,070	5	50.4	.....	81	1†	23[b]	18	49[b]	0.51	.....	0.27	0	2	18	5	7	.....	Mrs. Agnes Ritchson.
Metolius	Crook	3,600	....	54.5	.....	89	1	31	18†	42	2.02	.....	0.74	0	5	.....	.....	.....	w.	W. E. Lottman.
Mikkalo	Gilliam	1,400	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Frank Little.
Miramonte Farm	Clackamas	195	23	56.7	− 1.7	77	1	35	24	33	7.97	+ 5.81	2.02	0	15	8	11	11	n.	G. Muecke.
Monroe	Benton	350	14	.....	.....	.....	.....	.....	.....	.....	3.88	.....	.....	0	.....	.....	.....	.....	.....	L. A. Peek.
Mount Angel	Marion	485	24	58.2	.....	88	3	40	18	32	7.12	.....	2.21	0	16	11	6	13	sw.	Dr. Urban Fisher.
Mount Hood	Hood River	1,650	1	54.8	.....	82	1	30	24	36	5.01	.....	1.66	0	8	14	11	5	w.	S. G. Babson.
Musick	Douglas	5,000	2	46.4	.....	70	1	31	17†	25	11.24	.....	3.86	1.0	16	8	4	18	sw.	Alex. Lundberg.
Newport	Lincoln	69	24	55.8	− 0.2	70	13	40	23†	24	2.68	− 0.03	0.85	0	7	9	12	9	nw.	Wm. Matthews.
Paisley	Lake	4,500	8	53.8	.....	81	1	35[a]	17†	34[a]	1.31	.....	0.62	0	3	16[b]	7[b]	5[b]	w.	E. C. Woodward.
Paulina	Crook	4,000	....	54.2	.....	88	2	21	14	56	0.48	.....	0.17	0	4	12	7	11	sw.	Orrin C. Mills.
Pendleton	Umatilla	1,070	22	58.8	− 2.5	99	1	24	24	51	0.77	− 0.12	0.30	0	6	10	17	3	sw.	E. F. Averill.
Pilot Rock	....do	1,817	3	59.8	.....	98	1	34	24†	43	0.97	.....	0.40	0	5	17	11	2	nw.	John P. McManus.
Pompeii	Clackamas	3,879	16	46.2	− 5.3	78	9	29	24	38	6.87	.....	1.60	0	12	9	12	9	sw.	E. Coalman.
Portland	Multnomah	57	41	58.4	− 2.2	82	1	43	24	24	5.19	+ 3.35	2.88	0	16	3	8	19	nw.	U. S. Weather Bureau.
Port Orford	Curry	80	6	56.2	.....	69	2	41	22	24	1.54	.....	0.50	0	9	16	9	5	n.	J. D. Loucks.
Prairie City	Grant	3,425	....	54.7	.....	98	1	29	29	50	1.06	.....	0.34	0	7	15[e]	8[e]	4[e]	w.	A. M. F. Kirchheiner.
Prineville	Crook	2,864	15	55.7	− 1.3	91	1	30	19	54	0.68	+ 0.03	0.37	0	2	20	6	4	nw.	George Summers.
Prospect	Jackson	2,800	5	53.6	.....	84	1	26	17	51	3.83	.....	1.22	0	11	8	17	5	w.	E. F. Graham.
Ramsey	Wasco	1,350	10	53.2	.....	85	1	31	23	35	4.83	.....	1.84	0	6	18	4	8	w.	Mrs. Iva B. Collins.
Range	Grant	3,500	3	51.8	.....	87	1	26	24†	50	0.15	.....	0.05	0	4	11	9	10	.....	Mrs. Emma Arbuckle.
Redmond	Crook	.....	....	53.0	.....	86	1	28	24	40	.....	.....	.....	0	....	15	5	10	w.	E. E. Foote.
Richland	Baker	2,350	10	57.1[d]	.....	90[i]	12	29	18†	47[i]	0.16	.....	0.08	0	2	17	10	3	sw.	L. G. Morgan.
Riverside	Malheur	3,000	12	53.4	− 5.0	90	1	18	24†	55	0.20	− 1.90	0.20	0	1	.....	.....	.....	.....	Mrs. Leah Fairman.
Roseburg	Douglas	510	33	57.8	− 2.7	84	1	37	24	36	2.84	+ 1.80	0.73	0	14	9	15	6	nw.	U. S. Weather Bureau.
Salem	Marion	120	21	57.2	− 3.6	84	1	40	24†	28	4.56	+ 2.92	2.11	0	12	9	3	18	sw.	M. P. Baldwin.
Silver Lake	Lake	4,700	14	49.6	− 4.0	84	1	19	18	53	1.51	+ 0.88	0.65	0	4	6	16	8	w.	L. W. Charles.
Siskiyou	Jackson	4,115	3	50.3	.....	76	1	32	10	32	1.56	.....	0.53	0	8	6	16	8	n.	U. S. Weather Bureau.
Sparta	Baker	4,150	20	55.2	− 2.2	90	1	30	25	49	0.28	− 0.82	0.15	0	4	20	6	4	w.	J. A. Wright.
Stafford	Clackamas	400	15	57.5	− 4.0	87	1	38	24	33	9.50	+ 7.18	3.68	0	16	.....	.....	.....	ne.	John P. Gage.
The Dalles	Wasco	112	37	58.8	− 3.8	90	1	38	23†	32	2.92	+ 2.34	1.00	0	8	15	12	3	w.	S. L. Brooks.
Toledo	Lincoln	75	21	58.8	+ 0.3	75	1	40	24	31	3.25	+ 0.58	0.80	0	7	22	4	4	.....	C. B. Crosno.
Umatilla	Umatilla	340	23	62.3	− 3.2	93	2	36	24†	36	1.50	+ 0.99	0.97	0	6	17	6	7	sw.	Mrs. Helen T. Duncan.
Vale	Malheur	2,242	19	59.6	+ 0.9	99	1	25	29	56	0.07	− 0.44	0.07	0	1	22	8	0	e.	H. P. Osborne.
Van	Harney	3,506	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. Howe.
Wallace Orchard	Polk	170	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. A. Park.
Wallowa	Wallowa	2,935	8	53.2	.....	89	2	20	24	51	1.07	.....	0.39	0	6	7	9	14	nw.	L. J. Coverstone.
Wamic	Wasco	1,500	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. J. Swift.
Warmspring	Crook	1,500	9	57.1	.....	91	1†	31	18	47	1.50	.....	0.75	0	4	7	19	4	nw.	Claude C. Covey.
Wasco	Sherman	1,263	4	.....	.....	.....	.....	.....	.....	.....	3.43	.....	1.24	0	8	17	3	10	w.	J. R. Howell.
Westfall	Malheur	3,000	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. M. Gilliam.
Weston	Umatilla	1,800	19	56.8	− 1.8	90	1	29	24	40	1.69	+ 0.16	0.55	0	5	6	9	15	sw.	M. A. Baker.
Williams	Josephine	1,368	19	51.6	− 7.8	87	2	20	18†	60	0.82	0	0.30	0	4	15	10	5	s.	Francis J. Leroy.
Yonna	Klamath	4,146	4	48.4	.....	82	2	16	18	57	1.49	.....	0.50	0	6	11	14	5	w.	Jacob Ruecke.

[a], [b], [e], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1911. District No. 12, Columbia Valley.*

Stations.	Watershed.	Day of month.																											Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Montana.																																
Anaconda	Missoula		T.	.12		.25	.58						T.	.08		.04		T.					.21								1.28
Butte	do			.45		.40	.10							.25		T.							T.	T.							1.20
Columbia Falls	Flathead			.13	.16	.24	.06								T.	T.	.06	.38				T.	.10	.12				.10			1.35
Como	Bitter Root			.30	.12	1.13	.20	.01	.02				.02			.10							.07	.02					.02			2.10
East Anaconda ‖	Missoula		.05	.13	T.	.70	.14						.01	.04		T.							.04	T.							T.	1.11
Fortine	Kootenai			.68		.80	.01	T.	T.									.16				.06				T.						1.71
Hamilton	Bitter Root						1.70																.20									1.90
Hat Creek	Missoula			1.01	.09	.10	.12	T.						.11	.13	.02	T.	T.					.34									1.92
Kalispell	Flathead			1.26	.25	.12	.31						T.			.06		.23				T.	.39	.02			.09	.01	.01	T.		2.75
Libby	Kootenai																															
Lost Creek	Missoula	T.				.20	.54							14		T.							T.									0.88
McGinnis Meadows	Kootenai																															
Missoula	Missoula				.35	.02	.47		T.		T.			T.			.01						.16	T.			T.	.30				1.51
Ophir	do		.10	*	.80	*	.40							.30		.05	.07	.05					.11									1.88
Ovando	do	.02	.15	.17	.21	.02	.03	.09														T.		T.			.49					1.18
Philipsburg	do			.15			.75	T.						.05		T.	T.						.20	T.			.03					1.18
Plains	Columbia			T.	2.00		.35								.23									.40					.18			3.16
Pleasant Valley	Kootenai			1.50	.87	.20	.04						.25				.38	.04					.50	.03				.18		.02		4.01
Polson	Flathead				1.30		.09									.10		.01					.65					.25				2.40
Proctor	do				1.30	T.															.30		.35					.20				2.15
St. Ignatius	do			T.	.99	.08	.77	.01	.17	.01				.02	T.	.08	.03	.14					.49	.02				.21				3.02
St. Regis	Missoula																															
Saltese	do				.50	.65	.35									.67	.42										.45					3.04
Stevensville ‖	Bitter Root																															
Thompson Falls	Columbia			.03	.60	.12	.25	T.						.03		.25	.17	.06	.02					.02				.26				1.81
Willow Glen stock farm. ‖	Missoula			.25		.70	.10						.09	T.		T.							.02									1.16
Wyoming.																																
Afton	Snake					.10	.30																.52	.06	.10						.37	1.45
Alta	do		.04	.07	.13	.30	.06	.05						.21				.01					.42		.02		.03	.04				1.38
Bechler River	do			.14	.26	.70	.10	.20						.20									.24	.03			.07	.07				2.01
Bedford	do													.12									.50		.11							0.73
Moran	do			.05	.07	.30	.05	.10						.02										.40	.20			.14			.04	1.37
Snake River	do	T.		T.	.20	.40	.20	.30						.40				.08					.30		.04		.01	.10	.01		T.	1.99
Nevada																																
San Jacinto	Snake																															
Utah.																																
Standrod	Raft	T.												.84									.55									1.39
Idaho.																																
Albion	Snake			.15		.09								.29									T.			T.						0.53
Almo	do		.04										.61										.32									0.97
Alpha	Payette																															
American Falls	Snake											.56																				0.56
Blackfoot ‖	Blackfoot			.04	.12								.35									T.				T.					.27	0.78
Blackfoot Dam	do				.01	.40	.15							.22									.63								.05	1.46
Bogus Creek	Payette																															
Boise	Boise			T.	T.	T.	T.	0.1					T.													.01	T.	.02				0.04
Bonners Ferry	Kootenai			.67		.04								T.		.16	.57				.02		.04					.30	.03		.08	2.20
Boulder mine	Boise		T.	.05		.02	.08									T.										.01			.17			0.33
Buhl	Snake												T.																			T.
Caldwell	Boise						.12																			T.		T.				0.12
Camas	Lost River region.																															
Cambridge	Weiser					T.			T.																		T.					T.
Cedar Creek Dam	Snake			.10		.07							.08																			0.25
Chesterfield	Port Neuf	T.		.67		.20	.21							.11									.72			T.					.32	2.23
Clyde	Lost River region.		.01	.39		.17	.15	T.					.06	.30																		1.08
Cottonwood Creek	Boise																															
Council	Weiser																															
Culdesac	Clearwater					.80									.44		.07															1.31
Deary	do																															
Dent	do					.50	.49									.34	.05						.35				.10					1.83
Driggs	Snake		T.			.30	.06							.20				T.					.25		.03		T.					0.84
Edie	Lost River region.																															
Emmett	Payette																															
Forney	Salmon							1.06																	1.02							2.08
Garden Valley	Payette			T.					T.								T.							T.	T.			.14			0.14
Garnet	Snake																															0.00
Glenns Ferry	do																															0.00
Gooding	Wood-Malad					T.																										T.
Grand Forks	St. Joe				.94		.22							.10		.46	.81	.05														2.58
Grandview	Snake																															0.00
Grimes Pass	Boise		T.	.02	.01	T.	.06																	T.		.02		.24			.20	0.55
Guffey	Snake		.01	.01		T.	.01																			.02		T.				0.05
Hailey	Wood-Malad		T.	T.	T.	.03																					T.					0.03
Hotspring	Bruneau					T.	.17																									0.17
Idaho Falls	Snake			.51	.02	.04	T.							.08									T.		.02	T.						0.67
Indian Valley ‖	Weiser					T.	.10									T.																0.10
Irwin	Snake			.76																			.35									1.11
Kellogg ‖	Coeur d'Alene				.06	.33	.29							.03		.35	.10	.22	.02									.32				1.72
Kirkham	Payette				.35																											0.35
Kooskia	Clearwater			.40	1.00	.60																										2.00
Lakeview	Pend d'Oreille			.45		.65	.35									.32	.25						.18						.06			2.26
Landore	Snake			.07	.10	.17	.07										T.										T.					0.41
Lewiston	Clearwater			T.	.02	.28	.03							T.		.15	T.					T.						.04				0.52
Little Camas	Boise		T.	T.	T.	.02																				T.	T.	T.	.05			0.07
Long Gulch	do																															
Loon Creek	Salmon	T.	.01	.05	T.	.18	.06						.04									.05						.05	.02		.08	0.54
Mackay	Lost River Region.			.15		.12	.02							.15																		0.44
Meadows	Salmon																															

TABLE 2.—*Daily precipitation for September, 1911. District No. 12*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Idaho—Continued.																															
Meridian	Boise			T.		.02	.09	.02					T.													T.			T.			0.13
Mesa ‖	Weiser				T.		T.																T.									T.
Middle Fork	Clearwater				.40	.90	.90										.10															2.30
Milner	Snake			.05									.80																			0.85
Moscow	Palouse					.50	.16	T.	.20																							0.86
Mountainhome	Snake						T.																		T.							T.
Murtaugh ‖	do													.12																		0.12
Nez Perce	Clearwater		.07	.02	.17	.58	.57						.03			.16													.14			1.74
Oakley	Snake													.10																	.20	0.30
O'Hara Bar	Clearwater			.36	.05	.61	.44	.03	T.							.13	.04	.03									.07	T.				1.76
Orofino	do			.03	.03	.51	.09	.03																			T.				T.	1.29
Payette	Payette			T.			T.																				T.	T.	T.			T.
Peaceful Valley	Snake																															
Pebble	Port Neuf	.05		.02		.30	.05						T.	.12				T.				.90			.06			T.			.20	1.70
Pierson	Salmon		T.																													T.
Pleasant Valley	Boise						.02																		T.							0.02
Pocatello	Port Neuf			.05		.06	.01						.14	.18									.15			T.		T.			.01	0.60
Pocatello Nursery	do					.20	.09							.45									.59									1.33
Poplar	Snake			.20		.35								.15							.34											1.04
Porthill	Kootenai			.78	.72	.30							.41				.52						.80					.40				3.94
Pyle Creek	Payette			T.		T.	.05																						.03			0.08
Richfield	Wood-Malad												.14	.03																		0.17
Roseberry	Payette																															
Roseworth	Snake			.03		.03																										0.06
Rupert	do						T.							.10																		0.10
St. Maries	St. Joe			.25		.41	.15							T.		.21	.11										T.	.03				1.16
Salmon	Salmon		.01	.08	.10	.28	.52	.27						.05																		1.31
Salmon River Dam	Snake		T.	T.	.08	.03	T.						.02												T.							0.13
Sandpoint	Pend d'Oreille			.21	.71	.09								.08		.21	.18					.11	.40					.20	.03			2.22
Sheep Hill	Boise																															
Shoshone	Wood-Malad																															
Silver City	Owyhee			T.		T.	.10	T.																	T.	.07		.05				0.22
Soldier Creek	Wood-Malad		T.	T.									T.															.01			0.01
Spirit Lake	Pend d'Oreille			.33	.48	.79	.01						.10	.03		.18	.18						T.					.15		T.		2.25
Springfield	Snake			.06										.21																		0.26
Sugar ‖	do		.09	.56	.48	T.	.05						.05											T.								1.23
Sunnyside	do			T.		T.																			T.			T.				T.
Tripod Mountain	Payette				T.	T.	.26																			T.			.11			0.37
Twin Falls	Snake												.10																			0.10
Vernon	do		T.		.47	.28	.07						T.	.13									T.									0.95
Wallace	Coeur d'Alene		.05	.01	.06	.59	.12						T.	T.		.54	.38	.02					T.					.27				2.04
Weiser	Weiser																															
Wendell	Wood-Malad						T.																									T.
Washington.																																
Aberdeen	Coast		.03			.13	.11		.07	.75			.22	.52	.59	.93	.23				.05	.15	.02				.05			.13		3.98
Anacortes	Puget Sound			.07				.06	.38	.15	.01		.61	.18	.17	.67	.20				.05	.05	.11									2.71
Baker	do		T.	.27	.14	T.	.45	.12	.07	.08			.45	.81	.20	.73	.31				T.	.47	.72							T.		4.82
Bellingham	do			.08	.03		.14		.28	.09			.60	.34	.33	.80					.23	.24							.02		3.18
Bellingham, near	do		T.	.05	T.	T.		.30	.14	.20	.06		.54	.39	.34	.94	.42		T.		.28	.01	.14	T.					.04	T.	3.85
Beverly	Columbia																															
Blaine	Puget Sound			.15	.05		.04	.30	.50	.10	.03		.27	.50	.38	.45	.04				.44	T.	.08						.03	.10		3.46
Blewett	Wenatchee																															
Bremerton	Puget Sound	*	*	*	*	.24	T.		.04	.84		.16	.19	.03		.39	.12						.03						.04		2.08
Brewster	Columbia			.57		.13			.13	.13	.03		T.		.02								.17				T.				1.18
Bumping Lake	Yakima					.06	.01	.02	.01	.83	.03	.38	.01		.07	.04	.01					T.				T.			T.	T.		1.47
Cedar River	Puget Sound			.87		.10	.16	.09	.72	.21			.90		.59	1.61	.09				.03	.11	.04				.02		.04			5.58
Centralia	Coast		T.	.29			.17		T.	1.57	T.	.15	.76		.22	.69	.15				T.	.04	.06				.21		.05			4.36
Cheney	Spokane																															
Clealum	Yakima			.40	.11	.17	.52	.03		.34		.05	.89			.20	.08									.06						2.85
Clearbrook	Puget Sound			.21	.08		.06	.75	.21	.02	.02	.03	1.13	.79	.36	.95	.15				.40	.19							.04			5.39
Colfax	Palouse					.90	.20									.01																1.11
Colville	Columbia			.07	.29	.13										.08	.42						.22	.02				.03	.02			1.28
Conconully	Okanogan			.76	.60	.03	.20	.05	.12		.05		.04			.18	.06						T.									2.09
Cowiche	Yakima				.82	.35	.29	.01	.02	.40		.02	.06		T.		T.										.02					1.99
Crescent	Spokane						.50			.15						.03																0.68
Davenport	Columbia			.05		.40	.03				.33					.05	.15										.10					1.11
Dayton	do		T.	T.	.73	.74			T.	.09						.10	.14	.07									T.					1.87
Deer Park	Spokane				.75					.02				T.		.05	.08						.04					.03				0.97
Detroit	Puget Sound		.06	.37				.09	1.10		.05	.19	.03	.55		.48	.20		.02			.01	.05				T.					3.20
Dixie	Columbia			.02	.46	1.05	1.50		T.		.24					.55	.25	.04									.14					4.25
Dryden	Wenatchee			.12	T.	.08	.62	.02	.07	.14		T.	.47	.07	T.	.07	.07										.06					1.79
Duckabush	Puget Sound														1.50	.87	.05					.10	.12	.08								
East Sound	do																															
Ellensburg	Yakima			.20	.53	.62	.42	.03	T.	.36		.05	.51		T.	.04											T.					2.76
Ephrata	Columbia					.50																										
Forks	Coast	.18	.07	.21		.10	.15		.33	.44		.12		.45	1.14	.97	.40			.29	.19	.23	.38						.33			5.98
Fort Simcoe	Yakima				.50	1.80	.20	.01	.04	.50	.01	.35	.12			.02											.30					3.85
Gerome	Columbia			.05		.38	.01				.21					.01	.46						.11				.01					1.24
Goat Lake	Puget Sound			.15	.40		.73	.24	.19	.26	.05			1.65	.42	1.50	1.46	.16				.29	.40					.07		.08	.20	8.25
Gold Basin	do			.27	.07	.05	1.10	.05	.20	.17	.15	.10	.70	.65	.60	.40	1.20	1.00				.50								.30	T.	7.51
Gold Creek	Yakima																															
Goldendale	Columbia				.27	.62	.11				1.18			.07		T.	T.	.12										.20					2.57
Granite Falls	Puget Sound			.19	.12	.01	.26	.03	.20	.54	T.		1.12	.60	.18	.19	.61	.10				.64	.04									4.83
Grays River	Coast																															
Hatton	Columbia				.25	.51				.09		T.			.07												T.					0.92
Huntsville	do					1.00	.65			.27							.20		.12								.02					2.26
Irene Mountain	do		.01	.10	.40	.05	.09	.04	.05	T.	.02		T.	.02		.11	.27						.17					.08	.02			1.43
Kennewick	do			T.	.91	.28	.01		.05	.04		T.			T.											.06				.17		1.52
Kettle Falls	do			.31	.48	.10										.03	.25						.03					.05	.04			1.29
Kiona	Yakima				.23	.80	.25			.40	1.03					.08																2.79
Kosmos	Columbia			.34	.20	.41	.15		.16	1.43	T.	.11	.51	1.47	.50	.84	1.08	.12				.06	.39	.01			.20	T.	.06			8.04
La Center	do		.19	.36	1.35	.06	T.		.59	.18	.01	.14	.17		.65	.43	.52						.04			.11	.03	T.			.02	4.85
La Crosse	Palouse		T.		T.	.96	.08		T.	T.	.10	T.	T.			.09	.01			T.							.01					1.25
Lake Clealum	Yakima		T.	.43	.02	.13	.94	.12	.03	.46	.02	.18	.02	.04	.02	.63	.34	.02	T.	T.		T.	.08	.04		T.	T.	T.		.04	.02	3.58
Lake Kachess	do			.40	.03	.10	1.11	.04	.21	.89		T.	.40	.10	.09	.73	.63						.22				.04					4.99
Lake Keechelus	do			.01	.30	.09	1.13	.04	.50	.65			.90	.29	.43	1.19	.53					.10	.20				.03			.02		6.41
Lakeside	Columbia		.16	.04	.07	.18	T.	.02	.15	T.		.02		T.	T.	T.							T.				T.	T.				0.64
Laurel	do				.24	1.26	.38	.02	.04	1.31						.42	.12										.11					3.90
Laurier	Kettle			.32	.73	.04								.03			.11					.04	.01					.07		.01		1.36
Lester	Puget Sound				.14	.15	.80	.50	.38	.58	.01		.80	.10	.40	.72	.75	.19				.10	.25						.07	.05		5.99

TABLE 2.—*Daily precipitation for September, 1911. District No. 12*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Washington—Contd.																															
Lone Tree	Coast						.23		.13	.32		.03	.02	.06	.42	.49	.45				.11	.02	T.			.02			.14		2.44
Longmires Springs	Puget Sound																														
Lost Creek	Columbia		T.	.06	.07	.21	T.				.17					.17	.22						T.					.33			1.23
Lucerne	do																														
McConihe	do				.12	.98	.08		.01	.10	.07				T.	.05															1.41
McCumbers Ranch	do				.20	.80	.40		.10	1.70			.10			.60	.20									.10					4.20
Moses Lake	do																														
Mottinger	do				.20	.40	.20			.08	.04	.02					.02									T.					0.96
Mount Pleasant	Coast			.45	.03				.13	.93		.10	.08		.05	.38	.02					.26							.06		2.49
Moxee	Yakima			.07	.69	.44	.32	.02	.03	.22		.02	.03		.01		T.									.02					1.87
Newport	Pend Oreille			.35	.51	.18					T.		.05	.06		.17	.16	T.					.03					.21	.05		1.77
North Head	Coast		.06	.25		.04		.01	.10	.23			.26	.01	.56	.27	.06				.05	.04	.06			.03			.12		2.15
Northport	Columbia		.17	.55	.05	.02	T.			.02				.02	T.	.34	.02				.04	T.	.13	T.		.02	.06		.03		1.47
North Yakima	Yakima			T.	.51	.86	.34	.01	.14	.26		.05	.04		T.	T.	T.									T.					2.21
Nutland	Columbia				.33	.52	.20		.03	.36			.07			.06									.02						1.59
Odessa	do			.10		.92	T.	T.	T.	T.	.20				T.	.10										T.					1.32
Olga	Puget Sound		.08	.26			.16	.06	.41	.17			.68	.18	.29	.20	T.	.08			.11	.05	.17								2.90
Olympia	do		.14	.15			.04		.10	1.04		.04	.42	.03	.63	.95	.04					.03	.13			.06			.04		3.84
Omak	Okanogan			T.			.08		.04	.03			T.		T.		T.														0.15
Oroville	do			.45	.21	.01	.01	.08	.06					T.		T.															0.82
Parker	Yakima																														
Peola	Snake			.01	.04	.64	.28	T.	T.			.03	.01			.36	.08									.24	T.				1.69
Pomeroy	Snake				T.	1.25	.22										T.									.05	.19				1.71
Port Crescent	Coast		.03	.22					.67	.59		.11	.01	.04	.24	.46			.02		.01	.19						T.			2.59
Port Townsend	Puget Sound		T.	.25					.32	.70	T.	.02	.93	.26	T.	.15			T.		.05	.36	T.				T.				3.04
Pullman	Palouse						.50	.16								.14	.10									.02					.92
Queets River	Coast		.03	.18	T.		.08	.03	.10	.30	.02	.05	.05	.09	1.09	.81	.17	.02	.03		.21	.26	T.	T.				.04	.09		3.65
Quinlault	do		.05	.40			.18		.60	.80		.35	.05	2.30	1.18	1.38	.32		.10		.28	.26	.10	.01				.04	.06		8.46
Republic	Kettle			.09	.33	.07	T.	.02	.05		.03			.06		.04	.09	.08	.03				.12				.13		.05			1.19
Rex Creek	Columbia			.70	.50		.26		.06	.02				.80		.21															2.55
Ritzville	do																														
Rock Lake	Palouse			T.		.81				T.	.46					T.	T.									T.					1.27
Rosalia	do			.03	.04	.55	.05				.03					.10										.01					.81
Russells Ranch	Yakima		T.	T.	.94	.51	.14	.10	.14	1.10			.31	T.	.07	.53	.06						T.								3.90
Seattle	Puget Sound		T.	.24	T.	T.	T.	T.	.97	.69	.01		.65	T.	.22	.30		T.				.01	.14						.04		3.27
Sedro-Woolley	do			.14			.13	.02	.22	.18		.03	.54	.94	.25	1.50	.40				.25	.12	.50						.05		5.27
Sixprong	Columbia				.28	.27	.35	.01	.02	.57	.01																					1.51
Skagit Power Dam	Puget Sound																														
Snohomish	do			T.	.05		.09	.01	.09	.85	.10					.12	.18	.12				.40									2.01
Snoqualmie Falls	do			.08	1.07	.02	.40	.12	.07	1.10	.04		.93	.16	.23	1.08	.18	.03				.01	.29						.01		5.82
Snyders Ranch	Columbia			.40	.41	.02	.23	.03		.10			.06	.26	T.	.07							T.	T.							1.58
South Bend	Coast		.05	.32		.01	.02		.09	.46		.06	.15	.02	.68	.45	.48							.11	.09		.02		.02		3.03
Spokane	Spokane		.08	.04	T.	.47	T.				.04		T.		.03	.01	.03						.02				.03				.75
State University	Puget Sound					.02		.02	.88	.08	.01	.14	.71		.25	.18	.02						.08								2.39
Stokes Ranch	Columbia			.30	.49		.25	.03		T.	.18		.08																		1.33
Sumner	Puget Sound			.17		T.	.22	.02	.42	1.78	.01	T.	.87	.03	.25	.69	.05	.04	.01			.02	.18				.03	T.				4.79
Sunnyside	Yakima			.11	.42	.78	.27	T.	T.	.52	.03	T.															.18					2.31
Tacoma	Puget Sound		.16	.18		.15	T.		.74	.81	.06		.63	.03	.60	1.05	.18		T.		T.	.03	.05				T.			.03		4.70
Tatoosh Island	Coast		.05	.13			.01	.06	.43	.45		.05	.10	.30	.53	.88	T.		T.		.13	T.							.77	.25		4.14
Tieton	Yakima				.68	1.08	.23	.07	.07	.96	.03	.02	.42		.02	.45	.03									.08						4.14
Tonasket	Okanogan			.25	.29				.14							.12											.03				.83
Touchet	Columbia				T.	.45	.21			T.	.12	T.				.03										T.					.81
Touchet Ridge	do				.10	1.25	1.28								.60	.82	.75									.48						5.28
Trinidad	do				.70	.45	.20			.23																					1.58
Vancouver	do		.23	.08	.80	1.23	.13		T.	.90	.05	.04	.32		.31	.41	.23									.15			T.		4.88
Vashon Island	Puget Sound			.30	T.		.02	T.	.17	1.30	.01	.02	.35	.01	.41	.64	.02	.02	T.		T.	T.				T.			.02	T.	3.29
Wahluke	Columbia																														
Wallace	Okanogan			1.05	.71	.16	.13	.13	.07		.08		.05	T.	T.	.08							.14					.05	T.			2.65
Walla Walla	Columbia				.28	.49	.23		T.	.19	.17	T.				.03	.01					T.				T.	.05					1.45
Washougal	do			.18	1.15	1.42	.40			.79	.05	.03	.20	.12	.25	.10	1.00	.13									.25	.02				6.09
Waterville	do			.35			.39	.09	.03	.33	.03	T.	T.		T.	.14	.14															1.50
Wenatchee (near)	do			.09	.53	.54	.76	.03	.01	.35		.01	.20		T.	.03	T.						T.				.05					2.60
White Salmon	do																														
Wilbur	do						.50			.35						.05	.04					.10				.02				T.	1.06
Wind River	do				.84	1.58	.02		.04	1.20			.19	.16	.11	2.95	.64									.14					7.87
Winthrop	do			.73	.30	T.	.23	.10	T.	.16			.11	T.		.20						T.					T.				1.92
Yale	do		.02	.20	.90	.85	.65		.04	1.03	.06		.56	.19	.63	1.80		1.05								.20	.45				8.63
Zillah	Yakima																														
Zindel	Snake																														
Oregon.																															
Adel	S. E. drainage																														
Albany ‖	Willamette			.02	.14	1.42	.46	.01		.16	.04		.12	.24		.22	.12	.10									.74	.44	T.			4.23
Allingham	Deschutes		.23		.68	.15	.03		.65	.01	.01		.01		.16	T.	.02										.80					2.75
Ana River	S. E. drainage				.35	.60	.05		T.																	.26	.03	.07				1.36
Ashland	Rogue	T.	T.		.17	.36				T.	.15		.20													.43	.26	.28			T.	1.85
Astoria	Columbia		.01	.33	T.	.03	.09		.20	.51		T.	T.		.60	.43	.18				.01	.13	.06				.10	.04	T.	.09		2.81
Bagley's Ranch	Snake		.01		.19		.23		.04																	T.	T.	T.				0.47
Baker	do		T.		.16	.07	.07		.01				T.				T.										.25					0.31
Bay City	Coast		.03	.15		.10			.15	.10		.03		.05	.45	.40	.20						.07			.08	.55					1.98
Bear Creek	Deschutes		.03		.46	.02	.02			.23																	.35			T.	.10	1.39
Bear Valley	S. E. drainage					T.																				.15		T.			0.45
Beech Creek	John Day				.15	.23			.07		T.					.03	T.									T.	.15					0.63
Bellfountain	Willamette			T.	.22	.99	T.			.09	T.	.11	.32		.11	.11	.26					.06					1.05	.01				3.32
Bend	Deschutes	.17			.38	.12	.21		.28	.75																.10	.55	.09				2.65
Big Basin	John Day				.40	T.	.60	T.	T.	T.	T.					T.											.50	.10				1.60
Black Butte	Willamette			.10	.35	1.45	.40			.15			.20		.30	.35												.35	.10	.05		3.80
Blalock	Columbia				.43	.74	.11			.49	T.		.06			.02											.14					1.99
Blue Mountain Sawmill.	Umatilla			.40	.70	.81		.03			.45					.45																2.84
Brogan	Malheur					T.	T.	.35	T.																						0.35
Buena Vista	Snake		.04	.01	.02	T.	T.									.01		.01												.01	0.10
Burns	S. E. drainage				.10	.03	.05										T.									.30	.07					0.55
Burns Mill ‖	do				.02		T.	.23																		T.	.35	.07	.10			0.77
Butte Falls	Rogue				T.	.55				.48			.10	T.		.07										.67	.30	.24			.03	2.44
California Gulch	Umatilla				.44	.48	.05	.06							.20																1.23
Canyon City	John Day				.23	.12		.15			T.					.10	.06										.20	.10				0.96
Cascade Locks	Columbia			.06	.94	1.48			.10	.88		T.	.15	.08	.25	.61	.81	.05	.01			.06					.13		.06			5.67
Cascadia	Willamette	T.	.15	.21	1.94	2.07	.10		.01	.69	.01		.27			.40	.21									T.	1.73	.04	.05			7.88
Cazadero	do		.03	.11	1.52	1.21	.31			.96	.50	.03		.10	.03	.85	.60					.07					.15	T.	.03			6.50
Christmas Lake	S. E. drainage				.18	.50	.04		T.	.08	T.		T.				T.									.22	.09	.10			T.	1.21

TABLE 2.—*Daily precipitation for September, 1911. District No. 12*—Continued.

Stations.	Watershed.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Oregon—Continued.																																
Cliff	S. E. drainage				.18	.35	.05			.10	.03						T.									.24	.24	.12				1.33
Columbia Mine	Snake		T.	T.	.51	.11	.31	.03					T.				T.	T.										.34				1.30
Condon	John Day	T.			.39	.20	.30			.71	.01	.02	.01		T.	.06	.04										.26					2.00
Coquille River Lighthouse.	Coast		.06	.08	.15	.33				.13	.05				.12	.38									.80	.11	.03					2.24
Cornucopia	Snake		T.		.05	.47	.18		.02				T.			.03	.01									.04					0.80
Corvallis	Willamette	.02	.03	.09	1.22	.20			.10	.03		.15	.24		.15	.09	.05					.02	.06				.86	.30	.60			4.27
Cracker Creek	Snake		T.		.05	.01	.03	T.	.01		T.					T.	T.	T.									T.	.01	.04		0.15
Crescent	Deschutes	.05			.15	.22	.10			.42	.01	T.	.03			.03										.67	1.08	.06				2.82
Dayville	John Day				.43		.20		.02	T.	.01															.18	.06	.02				0.95
Deadwood	Coast			T.	.20	1.38	.15	T.		.15		.15			.40	.13	.10									T.	1.60	.02				4.40
Diamond	S. E. drainage					T.	.18			T.																.18		.11				0.47
Doraville	Columbia		.01	.20	.04	.28	.04		.06	.51	.09	.03	.30	.04	.33	.53	.24	T.				.01	.05				.14	.14	.02	T.		3.06
Drain	Umpqua			.02	.17	1.07	.11	.01		.18		.20	.52	.10		.23	.13					.02				.29	1.17	.05		.02		4.29
Dufur	Columbia				1.00	1.38	0.69			1.03			0.30			T	T.										.14					4.54
Duncan	Umatilla					.70	.60			.30						.15							.15								.15	2.15
Echo	....do				.24	.28	.44				.05					.04																1.05
Ella	Columbia																															
Embody	S. E. drainage			T.	.40	.20	.09		.03	.22			.18													.80	.35	.06	.02			2.35
Eugene	Willamette		.04	.11	.32	1.36	.15			.22		.95	.30			.16	.04	.02								1.10	.14					4.91
Fairview	Coast					.36	.45	T.	T.	.12	.08	.35	.18	.28	T.	.22	.12									.26	.22					2.64
Falls City	Willamette		.05	.05	.52	1.28	.01			.08			.72		.47	.87	.14						.03				.62	.02				4.86
Fir Glen	Coast				.27	.63	.02			.03	T.		1.52	.09		.34									.43	.11	.20				3.64
Florence	....do		.02	.02	.15	.41	.13		T.			.15	.40		.52	.16									T.	1.77	.03				3.76
Forest Grove	Willamette		.51	.24	1.02	.61	.39		.06	.70			.21			.49	.33														4.56
Fort Rock	S. E. drainage	T.	T.		.25	.50				.45			T.													.70	.14				T.	2.04
Galice	Rogue				.03	.18				.47		.27	.82			.02										.25		.03				2.07
Gardiner	Umpqua		.05			.88	.19					.13	.66	.25	.30	.23								.08	1.40							4.17
Glencoe	Columbia					.73	.38			.27	.09					.09												.05				1.61
Gibbon	Umatilla				.50	1.00					.43						.15										.12					2.20
Glendale	Umpqua																															
Glenora	Coast		.05	.13	.08	.18	.09		T.	.19			.18	.10	1.17	2.01	.55					T.	T.				.47	.10				5.30
Golden Falls	....do			T.	.17	1.60	.35			.13	T.	.33	1.13	.04	1.34	.14										23	1.11	.02				6.59
Grande Ronde	....do																															
Granite	John Day																															
Grants Pass	Rogue				.50	.18				.15			.45													.17	T.					1.45
Grass Valley	John Day																															
Greenhorn	Snake	T.	.05	.01	.62	.02	.04		.08	T.	.05					.06	T.	.03									.05	.09	.01			1.11
Gumboot	....do		T.		T.	.07	.23		.03					.02			.11											T.			0.46
Gurdane	Columbia		T.		.58	.09	.44			T.	T.				T.	.15	T.									T.	.04				1.30
Happy Home	Umpqua				.10	.85	.05		.10	.05	.05	.10	.60	.24	.10	.04										.30	.04	.10				2.78
Hay Creek	Deschutes				.31	.08	.12			.85	.01		.11				.15										.62	.02				2.27
Hazeldell ‖	Willamette	.20		.35	.43	.45	.20		.73	.18	.20		.30		.24	.03										1.00	.19	.07			.17	4.74
Headworks	....do			.66	.98	1.33	.82			.90					.53	1.01	1.00					.13					.20	.04				7.60
Heppner	Columbia				.46	.05	.44			.23						.09	.02									.05						1.34
Hermiston	Umatilla				.15	.18	.23			.04		.03			.03																	0.66
Hermoso Rio	Deschutes		.40		.38	.12	.10			.72	.03					.04	.04										.58					2.41
Hilgard	Gnd. Ronde			T.	.20	.10	.01		T.	T.																.20						0.51
Hood River	Columbia				1.10	.70			.10	1.50	T.			T.	.25																	3.65
Hoover	Willamette			.15	1.04	1.36	.36			.70	.16	.02	T.	.50	.53	.06										1.15	.02					6.05
Howardville	Gnd. Ronde	.04	.04	.03	.40	.30	.17		.01		.02					.10	.09	.04					.02				.01					1.27
Huntington	Snake																											T.				T.
Ibex Mine	John Day				.10	.08	.36	.07			.03				.07	.01	.05										.01	.01				0.79
Ironside	Snake				.32		.05	.07	.05																		.03					0.52
Jacksonville	Rogue				.20	.20							.31													.15	.21	.10				1.17
Joseph	Gnd. Ronde			.09	.05	.62	.33									.12														.12		1.33
Kerby	Rogue																															
Klamath Agency	Klamath																															
Klamath Falls	....do																										70					0.70
La Grande	Gnd. Ronde	.03			.25	.06	.15		.04		.05					.14		.01									.03					0.76
Lilyglen	Rogue			T.	.07	.58				.17		T.	.22			.04										.45	.38	.16				2.07
Long Creek	John Day		T.	T.	.02	.02	.04	.06	.02						.01				.08								.08	T.				0.33
Long Valley	Pitt				T.	.30					.01															.60	.05	T.				0.96
McKenzie Bridge	Willamette		.48	.02	.55	1.44	.51		.61				.14	.12		.55	.34					.02					1.52	.02	.02			6.34
McMinnville	....do	T.	.20	.50	1.50	.20			.15	T.		.15	.15	T.	.40	.40						T.	T.			.02				.25		3.92
Marshfield	....do		.05	.03	.31	.42	.02			.04	T.	.05	.44	.01	T.	.40	.06									.21	.90	.06				3.01
Maury	Deschutes		T.		.20	.05	.09		.02	.15					.05	T.	T.									.05	.40	.10			.42	1.59
Meacham	Umatilla																															
Medford	Rogue	.01			.01	.25				.11																.17	.47	.11				1.13
Merrill	Int. drainage					.24																				.27						0.51
Metolius	Deschutes				.71	.07	.02			.74																	.48					2.02
Mikkalo	John Day				.80	.81	.20		.10	.40	.04	.03	.03		.20																	
Miller Prairie	....do				.70	.40																					.70					1.80
Miramonte Farm	Willamette	.05	.25	2.01	2.02	.15		.02		1.16	T.		.42	.02	.27	.44	.96	.02	.01								.17					7.97
Monroe	....do		T.		.22	.75	.32	.08	.01																							‡3.88
Mountain Home	Columbia		T.		.90	.30	.42	T.		.02	.38		.40	.48	.03	.42	.98	.44						T.			.23					5.00
Mount Angel	Willamette			.20	1.91	2.21	.12			.67	.09	.22	.20	.03	.40	.45	.13					.03				.33	.03	.01				7.12
Mount Hood	Columbia				.87	1.66	T.		1.65		.03			.02		.25	.38									.15						5.01
Mountain Ranch	Rogue				T.	T.				T.	T.	T.	T.	1.00					.40													1.40
Musick	Umpqua	.05	.10	.15	1.10	3.86	1.50	.05		.70			.62			.60	.30						.05			.65	1.16	.25	.10			11.24
Newport	Coast			.08	.03	.38	.03									.85	.61										.70					2.68
Ochoco	Deschutes	.35			.66	.06	.16		.01	1.09		T.	.01			.02	.01	T.								T.	.05					2.45
Ochoco Creek	....do	T.			.39	.03	.17	.63		.51			T.		T.		.14										.61					2.45
Owyhee	Owyhee						.07																									0.07
Paisley	SE. drainage				.21	.62																			T.		.48					1.31
Paulina	Deschutes																									.17	.14	.12			.05	0.48
Pendleton	Umatilla				.12	.19	.30			T.	.05					.09												.02				0.77
Persist	Rogue	T.			T.	1.15				.45	T.		.30	.13		.20									.85	.65	.15			.11	3.99
Pilot Rock	Umatilla				.06	.30	.40			T.						.13											.08					0.97
Pompeii	Columbia				1.60	1.52							.60	.10	1.12	.60	.30					.10	.05				.35	.20	.33			6.87
Portland	Willamette		.15	.36	1.68	1.24	.02		.28	.46	.01	.02	.22		.35	.12	.14					.02	T.				.11	.01				5.19
Port Orford	Coast			.01	.12	.18	.17			.09	.08	T.				.50										.31	.08					1.54
Post	Deschutes				.47		.07			.30	.03					.07											.48					1.42
Power House	Walla Walla																															
Prairie City	John Day				.34	.10	.33	.01			T.					.03	T.								T.	.10	.15					1.06
Prineville	Deschutes		T.			T.																						.37	.31			0.68
Prospect	Rogue	.10			.07	1.22	.05			.41			.25	.05		.25										.71	.55	.17				3.83
Rager Creek	Deschutes				.30		.38		T.	.04	.13	T.				.01	T.										.50	.11				1.47
Ramsey	Columbia				.87	1.84	.35			1.03			.51			T.	T.										.23					4.83
Range	John Day				.05	.01	.05										.04															0.15
Ray Creek	Columbia		T.		.77	.04	.30		T.	.38	T.	T.			T.	.15											.07	T.				1.71
Redmond	Deschutes																															

TABLE 2.—*Daily precipitation for September, 1911. District No. 12*—Continued.

Stations.	Watershed.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Oregon—Continued.																															
Reston	Umpqua				.35	.44	.01			.05		.06	1.31	.02		.18	.08									.40	.20	.32				3.42
Richland	Snake		T.		T.	.08	.08																				T.				0.16
Riverdale	Deschutes																														
Riverside	Malheur				.20		T.																								0.20
Rock Creek	Willamette			T.	.18	1.03					.18	.26	.20		.23	.29	.03						T.			.12	.98				3.50
Roseburg	Umpqua			.21	.34	.38	.01		.13	.03		.01	.50		.02	.01	.01									.63	.24	.26				2.84
Rosland	Deschutes	.21	.01		.24	.52	.12			.57			.02	.06	.01											.27	1.17	.09				3.29
Salem	Willamette		.20	.12	.48	2.11	.25		T.	.09		T.	.32	.03	.12	.42						T.					.41	.01				4.56
Seneca	SE. drainage									.68																			.40			1.08
Silver Lake	....do				T.	.55	T.		T.	.09																.65	.22	T.			T.	1.51
Siskiyou	Rogue				.10	.38	.03			.04			.14													.16	.53	.18				1.56
Sisters	Deschutes	.22			.50	.22	.06			.77			.05			.03						.03				.10	.70					2.65
Sparta	Snake				T.	.15	.09																				.01	.03				0.28
Stafford	Willamette		.09	.28	1.90	3.68	.34	T.	.09	1.24	.02		.23	.05	.34	.24	.74	.03									.20					9.50
Starkey	Gnd. Ronde	.15	.02		.36	.10	.25		T.	.02	.30					.10											.03	.08				1.41
Summit	Willamette			.03	.50	.86				.15		.11	.20		.42	.40	.31						.13				.78	.02				3.91
Summit Prairie	Deschutes																														
Susanville	John Day	.01		.01	.20	.14	.30	.03	T.							.05		.04									.05	.03				0.86
Tamarack	....do	.05			.30	.23	.28	T.		.55		.05				.10	.09									.30	.03					1.98
Telocaset	Snake			.10	.40	.20	.01								.01		.01											.05				0.78
The Dalles	Columbia				.92	.79	.02			1.00			.11			.01	.02										.05					2.92
Tinroof Cabin	Umatilla	T.	T.	.07	.36	.18	.47				.02	T.																.10				1.20
Toledo	Coast				.20	.70	.05								.60	.75	.15										.80					3.25
Trail	Rogue				T.	.40				.32			.50												.42	.10	.29					2.03
Trask	Coast		.14	.23	.06	.34	.11			.66				.50	1.08	.78						.20					.40					4.50
Umatilla	Columbia						.97		.20	.05	T.				.02	.01															.25	1.50
Unity	Snake				.31	T.	.04		.02									.04									T.	.05	T.			0.46
Vale	Malheur					.07																					T.					0.07
Valley Falls	SE. drainage				.06	.45	.09			T.															T.	.16	T.	.20				0.96
Van	Malheur																														
Wallace Orchard	Willamette																														
Walloupa	Gnd. Ronde	.07	.18	.02	.20	.90	.14									.14	.03	.07					.02				.12	.24				2.13
Wallowa	....do	T.	T.		.08	.39	.20									.25	.07	.02					T.				T.	T.				1.07
Wamic	Deschutes																														‡3.51
Warmspring	....do				.30	.10				.75																	.35					1.50
Wasco	Columbia				.85	.83			.08	1.24			.12			.13	.03										.15					3.43
Welches ‖	....do		.01	.52	.50	1.40	.48		.08	.72		.16	.20		.11	1.20	.82					.06					.28	.09				6.63
Westfall	Malheur																														
Weston	Walla Walla			T.	.55	.40	T.	T.	T.	T.	.34		.25	T.		.15	T.										T.	T.				1.69
Williams	Rogue				.20	.07							30													.25						0.82
Yonna	Int. drainage				.10	.50							T.													.32	20	.05	.32			1.49

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for September, 1911. District No. 12, Columbia Valley.*

Date.	Montana.				Afton, Wyoming.		Idaho.																			
	Kalispell.		Missoula.				Boise.		Bonners Ferry.		Hot Spring.		Lewiston.		Mackay.		Meadows.		Pocatello.		Salmon.		Shoshone.		Vernon.		Wallace.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	84	50	93	48	85	37	93	62	87	57	96	55	95	60	82	50	.....	.....	84	54	87	44	.....	.....	86	45	88	50
2....	86	53	89	50	90	35	89	57	92	42	95	59	93	59	81	46	.....	.....	90	55	81	43	.....	.....	85	47	92	51
3....	70	54	84	55	82	39	75	60	72	46	86	60	77	62	79	45	.....	.....	78	53	78	41	.....	.....	83	45	66	54
4....	61	44	72	52	79	37	78	52	61	42	88	59	79	56	73	45	.....	.....	82	45	76	39	.....	.....	75	39	65	52
5....	50	42	62	42	69	40	64	49	55	45	82	53	63	55	70	38	.....	.....	64	46	71	41	.....	.....	65	41	50	44
6....	54	37	50	40	63	29	65	46	60	40	70	45	56	51	51	30	.....	.....	63	45	57	41	.....	.....	56	34	58	42
7....	56	33	62	34	62	27	69	41	67	30	70	42	72	50	58	34	.....	.....	68	38	64	41	.....	.....	62	34	63	31
8....	62	38	62	38	75	27	77	50	74	34	80	45	77	52	66	33	.....	.....	75	42	65	37	.....	.....	69	33	68	35
9....	70	41	75	38	78	29	83	54	75	41	84	43	75	56	75	40	.....	.....	82	48	70	37	.....	.....	80	44	70	44
10....	71	45	81	43	80	35	81	48	78	41	83	48	83	57	86	37	.....	.....	83	52	80	38	.....	.....	80	44	77	46
11....	82	45	84	45	81	36	81	51	83	41	81	55	82	54	80	40	.....	.....	85	54	74	41	.....	.....	83	42	84	45
12....	76	46	79	49	77	42	83	61	87	43	87	57	81	56	78	42	.....	.....	81	57	79	47	.....	.....	75	45	86	46
13....	64	52	70	54	.....	44	68	50	62	49	73	46	72	53	78	49	.....	.....	69	53	73	51	.....	.....	69	50	56	46
14....	65	46	73	34	.....	26	79	42	76	40	84	42	81	45	79	46	.....	.....	73	37	68	33	.....	.....	68	28	69	40
15....	61	41	70	38	.....	30	74	54	64	42	80	50	71	56	70	32	.....	.....	75	50	70	35	.....	.....	71	26	56	46
16....	55	36	62	38	.....	28	63	45	50	44	68	42	64	50	71	32	.....	.....	65	48	71	34	.....	.....	65	38	51	40
17....	48	42	53	40	.....	23	61	35	62	36	67	34	70	44	74	34	.....	.....	58	36	70	33	.....	.....	62	36	50	38
18....	57	40	68	32	.....	16	70	38	64	37	70	34	74	41	73	26	.....	.....	66	31	62	28	.....	.....	60	22	64	38
19....	60	32	65	28	.....	20	72	41	64	43	78	35	75	47	66	32	.....	.....	70	35	63	29	.....	.....	66	28	65	34
20....	65	39	71	45	.....	21	72	40	60	40	82	38	77	47	68	32	.....	.....	70	34	65	28	.....	.....	67	23	64	40
21....	63	47	74	38	.....	25	80	44	64	33	86	40	76	46	73	32	.....	.....	79	49	64	30	.....	.....	72	28	62	44
22....	48	35	68	42	.....	40	66	51	50	35	82	40	65	45	73	45	.....	.....	72	50	70	34	.....	.....	65	48	55	46
23....	49	33	60	29	.....	34	72	39	64	34	84	44	69	37	70	40	.....	.....	69	42	71	34	.....	.....	70	32	58	30
24....	54	32	62	27	.....	34	69	46	55	28	86	40	69	35	71	44	.....	.....	70	49	75	35	.....	.....	68	35	60	29
25....	60	26	70	25	.....	44	80	46	64	30	83	38	72	37	68	32	.....	.....	75	47	65	28	.....	.....	73	34	69	28
26....	61	35	76	34	.....	34	64	48	60	29	82	48	70	44	69	34	.....	.....	68	46	70	30	.....	.....	72	48	61	40
27....	59	38	64	34	.....	35	63	36	56	35	70	34	67	42	66	34	.....	.....	72	42	69	31	.....	.....	67	32	58	32
28....	52	38	66	36	.....	27	65	40	63	40	67	45	71	45	64	31	.....	.....	63	41	70	28	.....	.....	60	37	57	34
29....	56	31	70	30	.....	21	69	44	63	41	74	34	72	39	65	26	.....	.....	73	34	68	30	.....	.....	70	27	63	32
30....	61	30	69	30	.....	40	71	42	75	47	74	41	72	38	62	37	.....	.....	66	47	73	32	.....	.....	68	39	65	30
Mns..	62.0	40.1	70.1	38.9	.....	31.8	73.2	47.1	66.9	39.5	79.7	44.9	74.0	48.5	71.3	37.3	.....	.....	72.9	45.3	70.6	35.8	.....	.....	70.4	36.8	65.0	40.2

Date.	Aberdeen.		Blaine.		Colville.		Kosmos.		Lakeside.		North Head.		North Yakima.		Odessa.		Port Crescent.		Seattle.		Sixprong		Spokane.		Tacoma.		Tatoosh Island.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	74	50	73	45	92	47	84	47	90	62	56	53	90	62	91	55	61	45	75	57	94	66	90	55	73	56	61	51
2....	76	49	71	46	95	42	79	49	84	56	59	54	90	62	93	58	62	45	72	56	93	62	92	57	74	54	55	52
3....	68	52	64	55	73	54	67	55	82	55	62	54	87	60	78	46	59	52	68	56	80	57	72	58	69	56	59	53
4....	67	45	65	53	67	55	65	52	83	55	55	52	74	52	75	46	56	45	64	55	69	50	69	53	63	53	57	50
5....	64	51	72	44	62	46	58	54	65	52	58	54	58	51	74	44	60	45	69	55	59	51	58	47	68	54	54	50
6....	65	51	70	52	63	46	63	53	59	50	56	54	60	51	62	50	62	54	65	57	59	51	59	45	64	57	58	52
7....	69	54	66	56	66	42	68	56	67	52	60	55	69	52	70	49	62	51	72	57	69	50	64	40	67	56	58	52
8....	60	51	63	53	70	38	65	53	69	54	56	54	72	55	73	42	57	50	61	54	73	55	68	42	62	55	56	51
9....	59	51	64	50	86	40	57	50	71	54	56	52	66	55	71	45	56	50	56	53	67	53	76	54	57	51	54	50
10....	71	47	63	48	87	43	71	46	77	54	57	50	72	50	75	39	60	50	62	47	73	50	71	55	61	46	56	51
11....	72	51	69	47	86	42	70	46	82	53	56	53	76	52	79	37	66	42	68	51	80	54	84	49	67	50	55	48
12....	68	47	67	54	85	40	61	45	77	60	59	55	74	57	80	41	56	50	60	53	73	54	77	53	58	52	55	49
13....	65	53	61	53	72	40	63	46	71	52	58	54	71	45	85	39	59	49	64	54	70	50	65	48	64	54	56	53
14....	58	48	63	52	75	37	64	41	70	48	57	54	68	43	81	36	56	49	63	53	68	45	73	47	63	50	57	52
15....	59	45	58	47	68	45	55	45	68	52	56	50	67	47	70	39	56	45	57	50	67	48	62	48	58	49	55	49
16....	61	46	63	48	65	42	59	45	68	46	60	50	65	37	71	34	55	45	61	50	62	44	59	43	61	48	56	51
17....	65	41	61	38	67	36	65	49	72	47	57	51	66	42	73	32	57	39	64	50	68	42	63	42	63	48	56	48
18....	71	40	69	35	72	37	67	35	71	47	59	50	66	40	70	32	56	38	63	47	72	40	69	39	61	40	54	48
19....	66	40	62	42	73	37	65	41	76	51	57	53	74	44	71	39	57	38	65	48	76	49	69	41	64	45	56	49
20....	63	47	61	48	67	32	68	42	68	52	59	53	71	50	70	38	58	49	61	52	78	45	68	46	62	51	55	52
21....	62	44	60	48	67	40	66	46	63	44	58	52	68	49	69	46	56	40	62	49	59	52	67	48	61	49	55	50
22....	63	38	58	44	56	33	59	43	61	39	58	51	64	40	73	29	54	36	60	47	68	50	59	40	60	44	54	46
23....	64	42	57	35	63	30	64	36	62	37	54	48	64	38	76	30	50	32	60	44	67	43	60	33	59	37	54	44
24....	68	41	61	33	71	29	67	34	67	40	60	49	67	43	68	30	57	32	58	42	71	42	63	35	56	38	55	43
25....	74	35	62	31	67	23	75	31	68	35	64	51	67	38	68	29	60	35	63	47	70	42	67	31	62	38	54	46
26....	56	42	63	31	69	30	66	45	68	45	54	51	66	47	67	39	55	32	59	44	64	51	62	46	59	44	57	45
27....	59	46	63	45	62	42	58	43	66	49	56	52	65	37	66	40	56	42	61	50	67	38	64	40	60	48	56	50
28....	63	49	65	46	64	46	65	46	69	45	59	51	65	37	66	38	55	39	66	53	68	38	63	42	67	51	55	49
29....	64	43	62	45	67	36	65	42	70	42	58	51	68	39	68	34	56	39	64	50	67	37	65	39	65	49	57	48
30....	63	36	59	35	65	28	64	32	63	38	56	47	65	41	67	32	55	34	58	43	68	42	64	35	58	38	56	46
Mns..	65.2	45.8	63.8	45.3	71.4	39.3	65.4	44.9	70.9	48.9	57.7	51.9	69.8	47.2	73.3	39.6	57.5	43.1	63.4	50.8	70.6	48.4	68.1	45.0	62.7	48.7	55.9	49.3

TABLE 3.—*Maximum and minimum temperatures for September, 1911. District No. 12*—Continued.

Date.	Walla Walla, Wash.		Oregon.																					
			Ashland.		Baker.		Eugene.		Gold Beach.		Hermiston.		Marshfield.		Portland.		Prineville.		Roseburg.		The Dalles.		Vale.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	93	68	84	53	87	53	83	52	.....	.....	94	58	64	52	82	58	91	39	84	54	90	61	99	46
2	90	66	83	69	86	50	70	46	.....	.....	92	56	67	55	72	60	90	38	74	52	82	62	96	57
3	76	61	79	48	67	48	74	55	.....	.....	92	49	68	57	68	58	90	38	76	56	75	62	89	64
4	69	54	65	50	61	39	63	51	.....	.....	83	47	64	51	55	55	86	40	64	50	62	55	79	54
5	56	51	60	47	58	41	61	51	.....	.....	64	48	60	54	60	54	83	36	62	51	65	41	71	46
6	63	51	68	45	54	44	65	55	.....	.....	63	52	64	55	67	58	88	39	66	56	68	55	67	45
7	70	53	73	43	64	41	71	50	.....	.....	75	46	68	50	74	55	86	38	72	52	73	51	78	37
8	76	55	75	49	70	45	70	52	.....	.....	78	54	66	51	68	56	80	34	71	53	67	57	82	40
9	64	55	65	48	73	48	67	50	.....	.....	76	55	67	46	63	53	86	33	67	47	65	53	88	43
10	67	54	66	43	76	52	66	45	.....	.....	75	50	64	44	67	50	88	34	66	44	70	45	86	42
11	77	54	66	43	80	52	68	46	.....	.....	78	48	66	49	68	53	76	31	69	48	75	50	89	43
12	78	54	57	46	78	47	60	43	.....	.....	82	49	62	49	57	48	80	34	62	51	69	55	83	30
13	69	53	67	41	62	38	70	48	.....	.....	84	52	68	48	69	54	81	32	72	49	69	50	84	35
14	80	53	76	42	73	35	72	45	.....	.....	82	40	67	47	65	48	76	32	76	44	67	45	74	42
15	69	53	70	41	67	45	67	50	.....	.....	75	52	68	50	64	52	74	36	70	49	67	49	70	35
16	63	50	65	49	55	35	65	44	.....	.....	74	58	65	44	61	50	81	34	66	46	64	44	75	26
17	66	48	68	39	57	32	64	43	.....	.....	75	44	64	43	66	48	80	32	68	44	63	47	79	27
18	74	49	75	43	65	29	67	39	.....	.....	76	35	66	40	68	47	79	32	74	41	70	41	79	33
19	73	51	74	42	67	37	69	42	.....	.....	78	42	64	49	68	47	70	30	74	40	72	45	86	30
20	76	52	78	42	72	35	70	41	.....	.....	80	45	65	42	67	46	73	33	78	42	73	47	74	52
21	72	56	77	46	77	38	69	44	.....	.....	78	58	62	46	67	51	70	32	66	41	69	52	71	48
22	64	49	65	46	59	37	64	59	.....	.....	69	47	65	40	65	47	63	31	65	40	65	42	74	50
23	68	46	72	39	56	33	64	43	.....	.....	75	26	63	44	65	45	70	36	69	42	65	38	73	30
24	68	43	73	42	62	30	65	44	.....	.....	71	28	65	37	67	43	70	34	71	37	69	38	79	38
25	68	42	65	46	68	30	64	41	.....	.....	72	30	58	41	70	48	74	33	64	46	69	37	76	35
26	64	46	58	42	59	37	56	47	.....	.....	72	52	56	49	57	51	76	34	56	48	61	52	70	51
27	68	44	60	47	58	31	62	47	.....	.....	73	36	63	50	62	52	60	31	63	48	65	38	73	31
28	69	49	63	38	63	32	62	45	.....	.....	72	37	64	43	66	50	63	32	66	45	67	45	73	30
29	69	47	59	40	68	32	65	42	.....	.....	74	34	61	41	64	44	67	32	67	44	67	43	76	25
30	66	45	59	45	65	31	63	43	.....	.....	72	36	61	44	64	45	69	32	59	46	64	40	74	40
Means	70.8	51.7	68.8	45.1	66.9	39.2	66.5	46.1	.....	.....	76.8	45.1	64.2	47.0	66.0	50.9	77.3	34.1	68.6	47.0	68.9	48.6	78.9	40.2

a, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
‡ Data are from standard instruments not supplied by the U. S. Weather Bureau.
‡‡ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

14463—11——10

PAPERS ON CLIMATOLOGY IN RELATION TO AGRICULTURE, TRANSPORTATION, WATER RESOURCES, ETC.

CHARTS OF THE ATMOSPHERE.[1]

Review by ALEXANDER G. MCADIE, Professor, Weather Bureau, San Francisco, Cal.

This volume by Prof. A. Lawrence Rotch and Mr. A. H. Palmer at once suggests to every meteorologist a somewhat similar undertaking when the surface winds and ocean currents were charted by Maury 50 years ago. The present book, however, forces a recognition of even greater possibilities than the navigational charts promised, for while the ocean binds the nations water is not man's natural environment and the air is. Men had sailed the seas for ages before the physical geography was written; but men are only now beginning to fly, and what the future holds for us along these lines no one can predict.

The charts in this volume are primarily designed for the use of aviators and aeronauts. So far as we know they are the first issued for this purpose. The results of the many observations made during the past 20 years by the staff of the Blue Hill Observatory in the United States and on the Atlantic Ocean in exploring the air have been used almost exclusively and to good advantage.

At the outset we notice the distinction made between aeronauts and aviators, the former being balloon pilots and the latter pilots of flying machines heavier than air. Twenty-four charts are published, each accompanied with a page of explanatory text. The first chart gives relative heights, atmospheric density, and temperature. The heights are given only in English measures, and it would be an improvement if in subsequent editions corresponding values in the metric system were given.

Possibly a parallel column showing dynamic meters and equivalent pressures in millibars should be added. This opens up a matter of the utmost importance, namely, shall scientific units or units that at least make a pretense of precision be used *now* or shall we continue to use the old and cumbersome units and clumsy tables for conversion. This it seems to us is the only point on which the authors can be justly criticized, for in no place do they use anything but the old English units. Perhaps the authors felt that as the book was intended for American airmen it was better to keep to the units in common use and that the introduction of absolute units would not be desirable at the present time. Mr. Rotch's work abroad, however, is so well known and his familiarity with kite and balloon data so great that it seems strange not to find incorporated in this work at least equivalent values in units that are comparable and have a scientific basis. And it is only a question of time before the new notation must be used, for the old units retard rather than make for progress. The arguments in favor of the new pressure unit, i. e., where the pressure is represented in units of force and the value of 1,000,000 dynes taken as a standard, and all pressure variations given in percentages of this, are obvious; and the terms millibar instead of millimeter, centibar and decibar instead of others are daily appearing in the literature of meteorology. Tables are already published for the quick conversion of geometric to dynamic values. The reason for introducing the dynamic meter is simply because the value of the acceleration of gravity varies. As Bjerknes pointed out in his recent Dynamic Meteorology, the surface of equal heights is a slanting surface on which equilibrium is not possible under the sole action of gravity. On a surface of equal height above sea level a ball would roll from the pole to the Equator and on a surface of equal depth below sea level it would roll from the Equator to the pole. Therefore surfaces of equal height are not suitable as coordinate surfaces in problems connected with the dynamics of the atmosphere. To perform the same amount of work unit mass must be lifted higher at the Equator than at the pole. The whole conception is interesting and an idea of its far-reaching consequences can be obtained by thinking of a dynamic map in which the height of a mountain would be measured not by the vertical distance from sea level to summit, but by the proper value of the work done in reaching the summit.

The text accompanying the various charts is well written. The diagrams are explained in an easy and natural way, and there are many references to experimental facts which win and hold the interest of the lay reader. For the professional airman the charts are without question a "vade mecum." Of course the obvious weakness of all such charts from the professional air navigator's point of view is that they represent average conditions, which may not even be the probable conditions, and obviously they can not be expected to meet the individual requirements. As Prof. Rotch very wisely puts it:

> In the air as on the earth it is the unexpected which determines the result.

The charts are all valuable and are particularly strong in the matter of wind velocities at various levels and the frequency of certain winds at certain seasons. Of course data are chiefly those relating to horizontal movements. Ascensional air currents, and more especially the peculiar intermittent pulses which we do not yet adequately recognize nor automatically record, are, however, not forgotten. In the text accompanying chart 8 it is shown that intermittent ascending currents occurring during the daytime are strongest in summer and when it seems to be nearly calm. The upper limit of these currents is usually shown by the tops of cumulus clouds in which descending currents may cause vortices about horizontal axes. Cumulus clouds therefore indicate—

> that although the horizontal velocity of the air below them is less than the average, the conditions are unfavorable for aerial experiments, especially near the clouds.

This we think is a matter of great importance to aviators, and doubtless as the years go by we shall find that there are certain hours of the day or night when the conditions are favorable for aviation and other periods

[1] Charts of the atmosphere for Aeronauts and Aviators, by A. Lawrence Rotch and Andrew H. Palmer. Four to twenty-four full-page charts. John Wiley & Sons, 1911.

when there will be an element of danger. The vertical stability of the air is greatest during the night.

Extremely interesting are charts 21 and 22. The former enables the aerial navigator who has studied the pressure distribution from the daily weather map to forecast the changes of wind at different heights. In the case of low-pressure areas the closer the isobars the stronger will be the wind and the more nearly parallel or concentric to them will be its direction, which turns to the right hand with increasing height in the front half of the low pressure and slightly to the left hand in the rear half. Chart 24 gives the aerial routes of the summer across the north Atlantic. Courses are indicated and appropriate lines show the distance traveled by each wind and the direction in which the airship must be headed to maintain the course; also the distances which the motor acting alone would drive it. These forces, represented by the adjacent sides of a parallelogram, give the resultant progress. This and the course to be steered are readily found by means of an instrument devised by Prof. Rotch and constructed by Casella, in London. When the wind and motor act together the resultant is their sum and when opposed the difference. For simplicity the winds are concentrated in eight directions.

The work as a whole is a practical application of the knowledge deduced from many years' work at Blue Hill Observatory in the measurement of cloud heights and velocities, as well as other problems in meteorology which were not undertaken in connection with aerial navigation. The volume shows how valuable the work of the investigator becomes in directions never dreamed of when undertaken. The observatory has thus furnished data of the greatest importance to aviators and aeronauts. The book marks an epoch in aerophysics. It is undoubtedly the forerunner of elaborate charts of the air, even as the pilot charts followed from Maury's work.

CHARTS.

1. Relative heights, atmospheric density, and temperature.
2. Average temperature, barometric pressure, wind velocity, and pressure up to 30,000 feet.
3. Maximum wind velocities and pressure up to 30,000 feet at Blue Hill.
4. Wind pressures for constant velocities up to 30,000 feet.
5. Wind pressures for constant velocities up to 10,000 feet.
6. Monthly temperatures up to 12,000 feet at Blue Hill.
7. Monthly wind velocities up to 12,000 feet at Blue Hill.
8. Hourly wind velocities up to 10,000 feet at Blue Hill.
9. Frequency of constant wind velocities, 1,000 to 10,000 feet, at Blue Hill.
10. Frequency of winds at Blue Hill, 650 feet.
11. Velocity of winds at Blue Hill, 650 feet.
12. Frequency of winds at Blue Hill, 1,650 feet.
13. Velocity of winds at Blue Hill, 1,650 feet.
14. Frequency of winds at Blue Hill, 3,300 feet.
15. Velocity of winds at Blue Hill, 3,300 feet.
16. Frequency of winds at Blue Hill, 6,600 feet.
17. Velocity of winds at Blue Hill, 6,600 feet.
18. Frequency of winds at Blue Hill, 10,000 feet.
19. Velocity of winds at Blue Hill, 10,000 feet.
20. Wind velocity and direction up to 13,000 feet at St. Louis.
21. Winds at various heights as related to barometric pressure at the ground.
22. Frequency of winds in the northeast trade region of the Atlantic Ocean.
23. Velocity of winds in the northeast trade region of the Atlantic Ocean.
24. Aerial routes in summer across the north Atlantic Ocean.

VARIATIONS IN RAINFALL.

By EDWARD A. BEALS.

Rudyard Kipling is quoted as having recently said:

The United States by its haste and waste has so dissipated its resources that before national middle age it is driven to seek virgin fields for cheaper food and living.

It is true to a certain extent that the United States has been prodigal with its natural resources, but we are now awakening to the importance of the trust imposed upon us, as witnessed by the growing importance of the annual meetings of the National Conservation Congress. Great Britain has been even slower than the United States in conserving her natural resources, for it was not until the last meeting of the British Association for the Advancement of Science that this question came before that body for a full discussion of the subject. The president of that association at the recent meeting in Portsmouth, England, devoted a large part of his address to the necessity of conserving the natural resources of Great Britain; and while the proceedings of this meeting have not yet been published it is very likely the steps taken there will inaugurate a new policy in the preservation of some of the most important resources of that country.

Of all the good things with which nature supplies us I know of none more important than water. It is the life of the land, and we should be thankful that the greater portion of our country receives a liberal supply. The water that we are most interested in is evaporated from the oceans and deposited in the form of rain or snow on the land. The rainfall or snowfall of a country therefore is the base upon which to calculate the feasibility of irrigation projects, power plants, and farming operations in general. Nothwithstanding the importance of the subject I find in my talks with people from day to day that there are many who have very limited ideas regarding precipitation. They seem to think that the amount that falls every year is about the same, and if it is not the climate of that locality is changing for better or worse, as the case may be.

I wish to show by Weather Bureau and other records that while there are large variations in rainfall from year to year that our climate is not changing to any appreciable extent, and, if possible, give a clearer understanding of the limitations of these records. Prof. Henry, of the Weather Bureau, by means of careful comparisons, has arrived at the conclusion that the rainfall records in our large cities may show values anywhere from 5 to 10 per cent short of the true amount.[1] These errors are due to the exposures of the rain gages, which vary as regards elevation and the proximity of tall buildings. A difference in elevation means a difference in wind velocity, and the proximity of tall buildings creates eddies and currents that are unnatural. When there are artificial eddies and strong wind currents around a rain gage the catch is not so great as otherwise would be the case. The ideal exposure is in an open clearing some little distance from surrounding trees which act as a wind break without being near enough to create disturbing eddies.

Ideal exposures are not to be found in our large cities, but great pains are taken to find the best that can be had for all Weather Bureau gages. Every once in a while the changing conditions in cities make it necessary to obtain new exposures, and then there is an uncertainty as to the correction that should be applied to make the records at the two exposures strictly comparable. A rain gage exposes an aperture about 8 inches in diameter which is supposed to catch all the rain or snow that falls over that area. This rain or snow is then measured, and the record thus obtained is said to represent the amount that falls over a relatively large section of the surrounding country. It often happens that it rains very hard in one portion of a city while no fall of consequence takes place in another part of the same city. It is assumed that in the long run these variations will be equalized by the catch in a single location, although gages located near one another may not agree by considerable in the amounts caught for single months or even years.

Carefully kept precipitation records are the only information we have on which to base conclusions regarding the changes in the amount of rainfall from year to year, and from the tables and charted results that will be shown one will be able to draw his own conclusions as to whether or not the rainfall in the United States is increasing or diminishing.

Before discussing these records, however, I wish to call attention to a very important discovery that was made by Prof. Brückner about a quarter of a century ago. Prof. Brückner, in studying the remarkably long-period oscillations in the water level of the Caspian Sea, came to the conclusion that there is a 35-year period of climatic oscillation. The records of the gage heights of the rivers feeding the Caspian Sea showed the same oscillations as the sea itself, which proved the rise and fall was not due to subterranean sources.

With the Caspian Sea record as a starting point Prof. Brückner obtained a record of the time of harvesting grapes in southern France from about the year 1400, a record of ice in the rivers from 1736, the occurrence of severe winters from the year 800 and such information as was available about the variations in Alpine glaciers for the last 400 years. This information was compiled and the results confirmed his previous conclusions that there is an oscillation in the climate of the world with an average swing from one maximum to another of 35 years. The periods vary in length from time to time and individually are frequently shorter or longer, but 35 years is the average of a great number of them as determined by Prof. Brückner. The cause of these oscillations is unknown, but some scientists think they are connected with a long-period variation in sun-spot frequency.

After the fact was established that oscillations take place in climate the next point to ascertain was the amount of the changes in measurable units. Prof. Brückner collected all the long-period temperature and rainfall records available in the world and from them determined that there are places where the phases and epochs are reversed, but the average between the maximum and minimum was nearly 2° for temperature and might be in some localities as much as 50 per cent for rainfall. It is greatest in the interior of continents and least near their coasts. It has not yet been demonstrated that this information can be used for forecasting purposes, as

[1] See Annual Report of the Chief of the Weather Bureau, 1896-97, p. 319.

the areas of reversals have not been mapped, and the variations in the length of the periods are so great that it is impossible to foretell when the changes will occur.

The periods, which are taken from Moore's Descriptive Meteorology, are as follows:

TABLE I.—*Oscillations of climate according to Brückner.*

Years.	Temperature °C.	Rain (per cent).	Lakes.	Beginning of Alpine glacier movement.
1731-1735	−0.34	−4		1735 advance.
1736-1740	−0.43	+9	1740 max.	
1741-1745	−0.35	−6		
1746-1750	+0.45	+5		1750 retreat.
1751-1755	+0.16	+5		
1756-1760	−0.08	−3	1760 min.	
1761-1765	−0.10	0		
1766-1770	−0.42	−4		1767 advance.
1771-1775	+0.24	+7		
1776-1780	+0.15	−2	1780 max.	
1781-1785	+0.18	−2		
1786-1790	−0.11	+2		
1791-1795	+0.46	−2		
1796-1800	+0.07	−1	1800 min.	1800 retreat.
1801-1805	+0.26	−4		
1806-1810	−0.18	+3		
1811-1815	−0.46	0		1814 advance.
1816-1820	−0.35	0	1820 max.	
1821-1825	+0.56	−2		1823 retreat.
1826-1830	+0.14	0		
1831-1835	+0.03	−8	1835 min.	
1836-1840	−0.39	−5		1840 advance.
1841-1845	0.00	+1		
1846-1850	−0.08	+3	1850 max.	
1851-1855	+0.11	+1		
1856-1860	+0.06	−4		1856 retreat.
1861-1865	−0.06	−5	1865 min.	
1866-1870	+0.11	−1		
1871-1875	−0.04	+2		1875 advance.
1876-1880	−0.07	+7	1880 max.	
1881-1885	−0.08	+6		

Means for the earth as a whole: The positive and negative values represent variations in the mean temperature and the annual rainfall, respectively, in the latter case in percentages of the mean annual amounts.

In compiling rainfall data we are at once confronted with the question as to the true normal, or, in other words, a normal that will not change appreciably, no matter how long the record has been kept. It [1] is claimed that a rainfall record of 25 years may give averages as much as 5 per cent too high or too low, and a record of 40 years may depart as much as 3 per cent from the true normal. The longest record considered in this paper extends back about 100 years and the shortest covers a period of only 36 years. It is safe to say that the 100 years' record will give us approximately a true normal, but in the case of the shorter ones the true normal has not yet been established, and the one used may be anywhere from 1 to 3 per cent too high or too low.

To show the unsatisfactory character of a 10-year record of rainfall, I have compiled the means for every 10 years at Astoria and The Dalles, beginning with the first year of the record, then dropping the first year and obtaining the mean for the next 10 years, and so on until the mean for the last 10 years has been obtained. These means are shown in Table II, in the last column, and it will be seen that some of them are over 15 per cent above and some are equally short of the average for the whole period covered by the observations. The Astoria mean for the 10 years ending in 1880 was 85.16 inches and for the 10 years ending in 1891 it was only 64.24 inches. At The Dalles the variation was from 17.74 inches for the 10 years ending in 1884 to 12.54 inches for a similar period ending in 1889.

In order to smooth out accidental extremes in yearly amounts due to local storms and other causes Blandford's method of obtaining five-year means was used for obtaining data for the curves on plate 1. His formula is as follows: $\frac{a+4b+6c+4d+e=c'}{16}$ where c' is the progressive average of the middle year of the group. Table II, which follows, contains the yearly and progressive averages for Astoria and The Dalles, Oreg., and on plate 1 will be found curves representing the progressive averages at these stations. On plate 1 curves also have been drawn for the progressive averages in southeastern New England and the middle Mississippi Valley. They are reproductions of those prepared by Prof. Mead and published in Bulletin No. 425 of the University of Wisconsin. Prof. Mead used Weather Bureau data in preparing his curves, and the tabular data are omitted, but they can be readily obtained from the Weather Bureau by those who wish to pursue this investigation farther.

For southeastern New England the means of 3 stations were used, viz, Boston, New Bedford, and Providence, and for the middle Mississippi Valley the means of 4 stations, viz, Muscatine, Monticello, Marengo, and Peoria, while for the Oregon curves the progressive averages are from single stations. It is evident the means of 3 or 4 stations will represent the average conditions in a locality better than the mean of a single station, provided the climatic conditions are similar in the selected locality. Unfortunately, there are no long rainfall records in Oregon in similar climatic districts that can be combined, and the single record at Astoria probably presents more irregularities than would be the case had it been possible to combine this record with others in the same neighborhood. The curve at The Dalles does not show marked departures from the normal, because of the small rainfall at that station combined with the stability of the climate.

TABLE II.—*Yearly rainfall, progressive averages, departures from the normal, and 10-year averages.*

ASTORIA, OREG.

Years.	Annual amount (inches).	Progressive averages (inches).	Departures (inches).	10-year averages (inches).
1854	59.22			
1855	79.20			
1856	59.17	69.60	− 8.3	
1857	79.82	70.65	− 7.2	
1858	63.36	72.37	− 5.5	
1859	82.15	75.11	− 2.8	
1860	70.65	78.06	+ 0.2	
1861	92.93	87.69	+ 9.8	
1862	61.32	78.91	+ 1.0	
1863	94.13	80.69	+ 2.8	74.20
1864	75.70	83.33	+ 5.4	75.84
1865	85.22	87.57	+ 9.7	76.44
1866	100.40	90.11	+12.2	80.57
1867	91.25	83.43	+ 5.6	81.71
1868	57.74	72.59	− 5.3	81.15
1869	69.61	70.32	− 7.6	79.90
1870	71.19	77.42	− 0.5	79.95
1871	100.42	82.88	+ 5.0	80.70
1872	73.70	80.85	+ 3.0	81.94
1873	74.41	78.81	+ 0.9	79.96
1874	80.89	82.77	+ 4.9	82.62
1875	95.73	87.19	+ 9.3	81.53
1876	84.75	85.23	+ 7.4	79.97
1877	83.64	79.52	+ 1.6	79.21
1878	56.88	80.41	+ 2.5	79.12
1879	108.30	88.87	+11.0	82.99
1880	92.88	91.09	+13.2	85.16
1881	89.40	79.79	+ 1.9	84.06
1882	52.43	63.51	−14.4	81.93
1883	50.71	53.57	−24.3	79.56
1884	49.38	52.99	−24.9	76.41
1885	56.16	60.23	−17.6	72.45
1886	71.59	71.29	− 6.6	71.14
1887	92.09	77.19	− 0.7	71.98
1888	68.73	73.18	− 4.7	73.16
1889	65.03	66.81	−11.1	68.84
1890	58.49	66.30	−11.6	65.40
1891	77.74	71.07	− 6.8	64.24
1892	70.01	77.82	− 0.1	65.99
1893	91.68	83.37	+ 5.5	70.09
1894	88.84	84.22	+ 6.3	74.04

[1] See p. 326, Annual Report Chief of the Weather Bureau, 1896-97.

TABLE II.—*Yearly rainfall, progressive averages, departures from the normal, and 10-year averages*—Continued.

ASTORIA, OREG.—Continued.

Years.	Annual amount (inches).	Progressive averages (inches).	Departures (inches).	10-year averages (inches).
1895	70.75	83.49	+ 5.6	75.50
1896	94.82	84.36	+ 6.5	77.82
1897	85.06	83.54	+ 5.7	77.12
1898	68.72	83.62	+ 5.7	77.11
1899	101.40	86.63	+ 8.8	80.75
1900	84.97	86.38	+ 8.5	83.40
1901	77.87	83.08	+ 5.2	83.41
1902	86.48	81.45	+ 3.6	84.97
1903	74.81	81.25	+ 3.4	83.37
1904	88.67	80.69	+ 2.8	83.36
1905	72.63	79.38	+ 1.5	83.54
1906	82.73	76.74	− 1.1	82.33
1907	73.91	71.69	− 6.2	81.22
1908	56.71	68.64	− 9.2	80.02
1909	73.21			77.20
1910	86.85			77.39
Means	77.31	77.88		

THE DALLES, OREG.

1875	26.40			
1876	15.34			
1877	17.53	16.79	+2.0	
1878	13.53	16.65	+1.9	
1879	21.55	17.33	+2.6	
1880	13.61	17.79	+3.0	
1881	21.92	17.74	+3.0	
1882	15.53	16.80	+2.0	
1883	14.15	15.76	+1.0	
1884	17.81	15.04	+0.2	17.74
1885	11.95	14.03	−0.8	16.29
1886	13.80	13.06	−1.7	16.14
1887	12.21	12.17	−2.6	15.61
1888	11.69	10.94	−3.8	15.42
1889	7.51	10.30	−4.5	14.02
1890	12.18	10.95	−3.8	13.88
1891	12.12	12.18	−2.6	12.90
1892	11.97	13.90	−0.9	12.54
1893	17.97	15.86	+1.1	12.92
1894	18.02	16.52	+1.7	12.95
1895	13.88	16.06	+1.3	13.14
1896	16.76	15.50	+0.7	13.43
1897	16.60	14.22	−0.6	13.87
1898	7.58	13.08	−1.7	13.46
1899	16.74	13.60	−1.2	14.38
1900	13.62	14.81	0.0	14.53
1901	15.83	15.54	+0.8	14.90
1902	17.43	15.78	+1.0	15.44
1903	12.77	15.86	+1.1	14.92
1904	19.94	15.63	+0.8	15.12
1905	11.79	15.17	+0.4	14.91
1906	14.84	15.29	+0.5	14.71
1907	20.08	15.04	+0.2	15.06
1908	8.18	13.94	−0.8	15.12
1909	16.05			15.05
1910	14.56			15.15
Means	15.10	14.79		

In southeastern New England a dry period began in 1834 that lasted until 1858 or a quarter of a century. The periods about 1838 and 1848 were unusually dry, averaging, in 1838, 9 inches below normal and in 1848, 8 inches below. Between these two periods there were a few years when the deficiency was only 4 inches. This long dry spell was followed by one with moisture above the average which lasted until 1894, or for 36 years. During all of this time the rainfall in southeastern New England was normal or above normal, and in 1888–1890 it was 7 or more inches above normal, being practically as much above normal in 1888–1890 as it was below during the two extremely dry periods in 1838 and 1848.

Since 1894 the fluctuations have not been so marked, being below normal for about 3 years to 1897 and then above normal until 1905. Since 1905 there has been a deficiency in the rainfall of southeastern New England. The curve showing the averages in southeastern New England illustrates how the people living at the time of the Mexican War had good reason to believe that their rainfall was diminishing, for it had been below normal since 1834, and it continued below normal for about 12 years afterwards. The people of a later day in that locality, however, would most naturally have believed they were getting more rain than formerly, as the amounts averaged above normal from 1858, with the exception of a very few years, to 1905.

The maximum and minimum periods of rainfall in southeastern New England do not correspond with Brückner's periods, although there are minor fluctuations that accentuate these periods and they would have a bearing in computing the means of the world in favor of the claims made by Prof. Brückner.

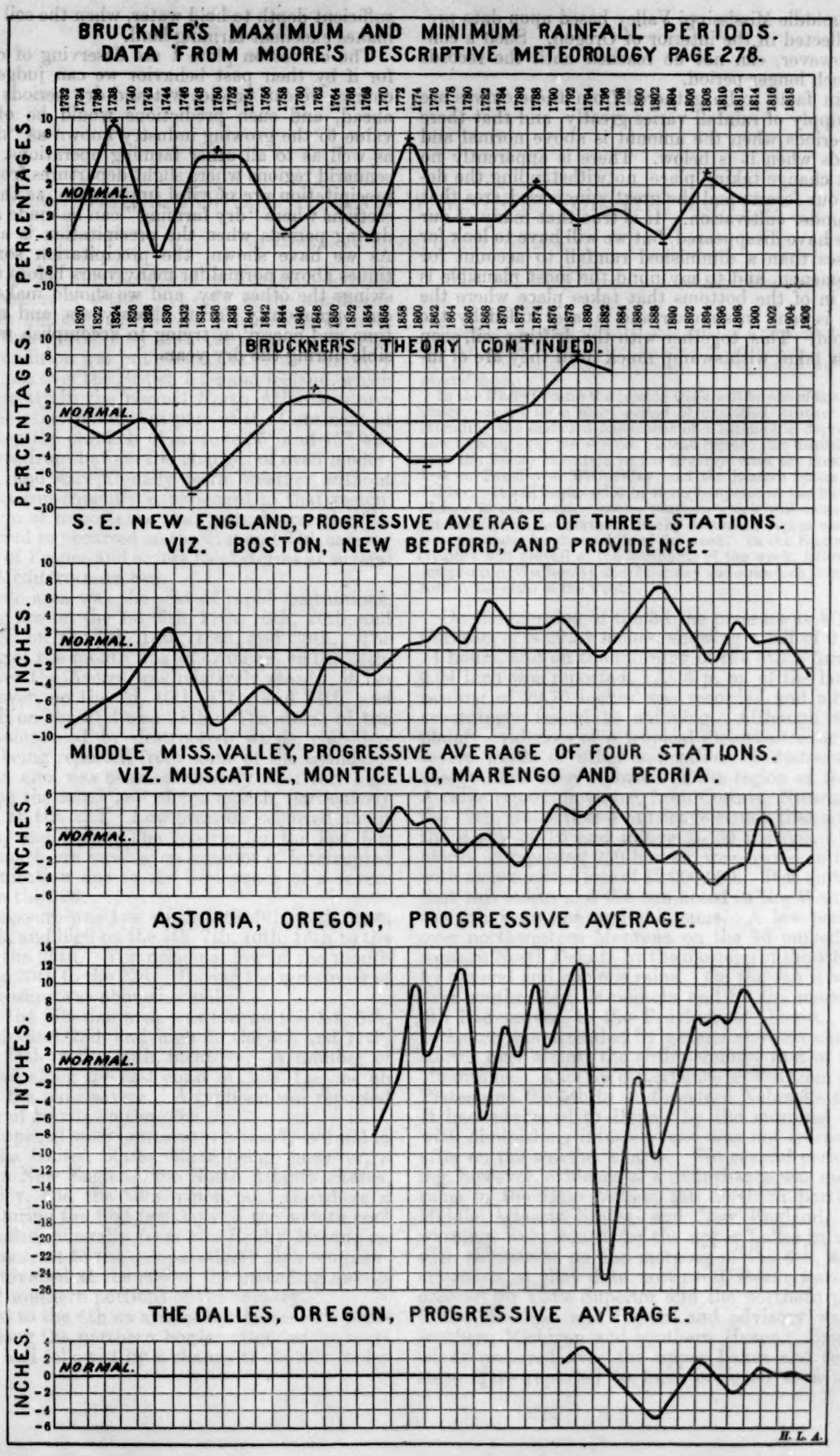
In the middle Mississippi Valley curve, as well as those which follow, we are met with the difficulty of shorter records, which make our normals less reliable.

We find in the middle Mississippi Valley the rainfall was 4.5 inches above normal in 1858, and then it decreased somewhat irregularly until 1873, or for 16 years. In 1874 an increase took place, which was progressive, excluding minor fluctuations, until 1882, when the amount was 5.5 inches above normal. The yearly amounts then diminished quite uniformly until 1889, in which year there was a deficiency of 2 inches. The variations for the next 2 years were small, but in 1893 the curve started downward and the minimum was reached in 1895, when the amount was 5 inches below normal.

After 1895 the rainfall in the middle Mississippi Valley increased until 1902, which was a wet year, with a progressive average a little over 3 inches above normal. From 1902 to date there has been a gradual decrease in rainfall, and the curve ends with a departure of 2 inches below normal. The middle Mississippi Valley curve shows some resemblance to the curve depicting Brückner's departures above and below normal, and confirms his statement that the changes are more marked in the interior of continents than they are near the coast.

The Astoria curve shows that from 1858 to 1882, 24 years, the rainfall was above normal, except for a very short period central about the year 1869, when it was 6 inches below normal. During this long period with an excess in rainfall there were years when it amounted to over 10 inches, and then again it was very nearly normal. This maximum period at Astoria includes both a minimum and a maximum period in the curve established by Brückner, and therefore does not correspond with the Brückner curve any more than does the curve during the same years in southeastern New England. Beginning in 1883, a deficiency in rainfall took place which lasted until 1892, 10 years. The rainfall was scant in 1883, when the departure was as much as 25 inches. From 1892 until 1907 there was a marked excess over the usual amount, and this period would correspond with one of Brückner's deficiency periods if his curve were extended to include these years. Since 1907 there has been a deficiency in the rainfall at Astoria.

The curve at The Dalles is more symmetrical. It shows a maximum period beginning with the first observation and lasting until 1885. From 1886 until 1893, 8 years, there was a deficiency, and since then the curve shows 2 short periods with the rainfall above normal, 1 short period with it below, and the beginning of another with it below, the length of which is problematical. The Dalles station is in the interior and the climate can be classed as continental. The curve shows characteristics similar to Brückner's and to the one for the middle Mississippi Valley, with the distinction that the periods at The Dalles are apparently a year or two in advance of those in the middle Mississippi Valley. This may be important, for if a law instead of a coincidence, then it will be possible to make long-range predictions of rain-


BRUCKNER'S MAXIMUM AND MINIMUM RAINFALL PERIODS.
DATA FROM MOORE'S DESCRIPTIVE METEOROLOGY PAGE 278.
PERCENTAGES.
NORMAL.
BRUCKNER'S THEORY CONTINUED.
PERCENTAGES.
NORMAL.
S. E. NEW ENGLAND, PROGRESSIVE AVERAGE OF THREE STATIONS.
VIZ. BOSTON, NEW BEDFORD, AND PROVIDENCE.
INCHES.
NORMAL.
MIDDLE MISS. VALLEY, PROGRESSIVE AVERAGE OF FOUR STATIONS.
VIZ. MUSCATINE, MONTICELLO, MARENGO AND PEORIA.
INCHES.
NORMAL.
ASTORIA, OREGON, PROGRESSIVE AVERAGE.
INCHES.
NORMAL.
THE DALLES, OREGON, PROGRESSIVE AVERAGE.
INCHES.
NORMAL.
H. L. A.

fall in the middle Mississippi Valley based upon data previously collected in the interior of Oregon. Such a conclusion, however, can not be reached until the records cover a much longer period.

The main facts to be gathered from these curves are that our supply of rainfall varies greatly, and that there are long periods when the amount is above normal and long periods when it is below. There is apparently no permanent change taking place, notwithstanding the depletion of our forests and the greatly increased area that has come under cultivation. It is true that many of our small lakes have disappeared, but we will have to look for other causes than a diminished rainfall to account for this phenomenon, and to my mind the most plausible is the filling in of the bottoms that takes place where the vegetation is rank in summer and is later killed by the winter's cold. This, together with the drifting soil, soon fills shallow lakes with swamp muck until they are of insufficient depth to hold water, when the soil dries out and makes excellent farming land.

The curves on plate 1 are deserving of careful study, for if by their past behavior we can judge their future course, we can predict wet and dry periods several years ahead, and such predictions would be of incalculable value to the growing industry known as "dry farming," as well as to all other farming operations. It is in the semiarid regions where slight departures from the normal precipitation are of vital importance, as there are many sections where "dry farming" can be made a success only during periods when the precipitation is above normal. As we have shown, the precipitation sometimes continues above normal for many years before the pendulum swings the other way, and we should make the most of our opportunity during these years, and not waste our time and energy in trying to accomplish what is impossible during the dry years.

WEATHER, FORECASTS, AND WARNINGS FOR THE MONTH.

By EDWARD H. BOWIE, District Forecaster.

Barograms for the month showed an increased activity in the great centers of action, not only in the amplitude of the changes but in their rate of progression as well, which latter was particularly noticeable in the United States. This condition was but natural, in view of the very rapid fluctuations over the British Isles and Iceland, which are almost directly in the normal North Atlantic storm track. On the other hand, that part of the Continent of Europe between the parallels of latitude 35° and 45° was remarkably free from barometric changes of even moderate intensity, and exceptionally warm weather without much rain was consequently experienced in that region. The only storm of importance that passed over the district just referred to occurred on the 21st and 22d, causing snow in parts of France and severe local storms at several ports on the Mediterranean Sea.

The Icelandic area was the seat of rapid fluctuations, pressure being low on the 1st, 5th, 11th, 16th, 20th, and 24th, and high on the 9th, 14th, 18th, and 30th. The lowest reading of the month was 28.62 inches on the 24th.

Pressure over the Azores was relatively steady; it being low, however, on the 2d, 10th, 17th, and 24th, and relatively high on the 21st and 28th. The storm of the 10th was accompanied by destructive winds, considerable damage being reported from some of the islands.

The Alaskan area was characterized by relatively high pressure during the latter half of the month, particularly from the 17th to the 23d. Low pressure occurred about the 7th, 11th, and 14th. The reports for the last few days of the month are missing on account of interrupted cable communication due to the occurrence of a severe earthquake on the 22d.

Honolulu pressure was low on the 5th, 9th, 12th, 21st, 24th, and 30th, and high on the 4th, 7th, 10th, 15th to the 17th, and on the 26th. The principal low of the month was that of the 20th to the 22d. During the remainder of the month pressure was about normal.

Pressure in the Siberian area was low on the 1st, 6th, 9th, 13th, 20th, and 23d, and high on the 5th and 11th, and from the 24th to the 30th, inclusive. A number of storms occurred along the east coast of Asia, the one on the 9th being the most severe. A typhoon was reported in the vicinity of Manila on the 27th.

The month opened with temperatures nearly normal in all parts of the United States, there being, however, a slight excess in New England, the North Atlantic States, the Ohio Valley, and the lake region, and elsewhere a deficiency. During the first few days of the month cool weather prevailed generally from the Rocky Mountains eastward, in contrast to the comparatively high temperatures which prevailed at the end of the preceding month in eastern and southern portions of the country.

From the 1st to the 4th an area of low barometric pressure moved along the northern border attended by scattered showers and followed by a change to slightly cooler weather.

The following weekly forecast was issued Sunday, the 3d:

There are no indications at this time of a tropical disturbance in South Atlantic waters, nor is the pressure distribution over the Atlantic Ocean favorable to storm formation in that region during the next several days.

In the United States the coming week will be one of fair weather generally, except for a short period of unsettled weather and showers attending the eastward movement of a barometric depression that is now forming over the western plateau region; this disturbance will be over the Rocky Mountain region Monday, cross the great central valleys on Tuesday or Wednesday, and the Eastern States Thursday or Friday. It will be preceded by rising temperature and be followed by a change to considerably cooler weather, which will cause frosts in all probability in the northern Rocky Mountain region and the Northwestern States by the middle of the week. In the Eastern States cool weather will prevail at the beginning of the week, followed by rising temperature Wednesday and Thursday and a reaction to lower temperature at the close of the week.

On the morning of the 3d the pressure at Willemstadt, Curaçao, was 29.84 inches, showing a fall of 0.10 inch in 24 hours, and on the morning of the 5th a further fall of 0.04 inch was reported. At 6 p. m. of the latter date a reading of 29.76 inches was recorded and advices were accordingly issued to shipping. Although there were plainly evidences of a tropical disturbance, no reports of severe winds or other indications of destructive storm energy have been reported in the region of the Antilles. A cable report, however, from Corinto, Nicaragua, dated the 12th, states that a hurricane struck that city, causing the death of 10 and injury to 50 persons. Eight city blocks, comprising 250 houses, were razed to the ground with an estimated loss of $2,000,000. It is quite probable that this storm and the one noted in the West Indies on the 5th were one and the same. A low-pressure area over northwestern Montana on the 3d moved to northwestern North Dakota by the morning of the 4th, attended by general and copious rains. On the 5th it was central over southeastern Minnesota and by the morning of the 6th had moved to the Province of Quebec. This disturbance was attended by general showers and thunderstorms over almost the entire country east of the Rocky Mountains. Another disturbance moved from the Middle Plateau on the 5th to southeastern Nebraska on the 6th. It had advanced to Illinois by the morning of the 7th with diminishing intensity and was not traceable thereafter on the weather charts. For several periods following, however, evidence of a disturbance was indicated by rains in the Ohio Valley, the northern portion of the Middle Atlantic States, and New England. Advisory warnings were issued for the upper Lakes in connection with this storm on the morning of the 6th, and on the afternoon of that date northwest storm warnings were ordered for Lake Superior and the northern portions of Lakes Michigan and Huron, and advisory warnings for southern Michigan and southern Huron. Brisk to high winds occurred over the upper Lakes and severe local storms are reported to have occurred at a number of

localities in that region. Fairly general rains were reported in connection with the storm just mentioned in central and northern districts. Following this storm, an area of high barometer appeared in the northwest, and on the morning of the 7th was central over the Province of Manitoba. It caused frosts in parts of Washington and Montana and at several Canadian stations, and the following morning frosts were reported in Montana and Wyoming, warnings of which had been previously issued.

For the week, as a whole, precipitation was the most widespread of the season, nearly all of the great agricultural districts east of the Rocky Mountains receiving from 1 to 2 inches. Over the Middle and Southern Plateau, however, precipitation was deficient. Temperatures averaged above the normal, except for central and southern districts, east of the Rocky Mountains, and elsewhere below the normal. Over the principal agricultural regions temperatures were generally high for the season, not being below 50° over large portions of the corn-growing States or below 70° in the cotton region.

On Sunday the 10th the following weekly forecast was issued:

There are no indications at the present time of a disturbance in south Atlantic waters.

In the United States the coming week will be one of generally fair weather and normal temperature over the greater part of the country. Occasional showers, however, are probable along the Gulf and south Atlantic coasts and in the North Pacific States. The next barometric depression of importance to cross the United States will appear in the northwest on Wednesday, pass eastward over the Middle West about Thursday or Friday, and the eastern States near the close of the week; it will be attended by local rains and be followed by a change to cooler weather over the northwest and the central valleys.

Attending a poorly defined disturbance that was central over Kansas on the morning of the 10th, an area of showers spread rapidly eastward during the 10th and 11th to the Middle Atlantic coast. An area of low barometer, central north of Minnesota on the 11th, increased in intensity and moved to the mouth of the St. Lawrence by the 12th, with lowest reported pressure 29.30 inches at Father Point. Its advance was attended by showers throughout the lake region and the northern portion of the Middle Atlantic and New England States. On the morning of the 12th advisory warnings of high winds were issued for the Atlantic coast from Norfolk to Eastport. Following the passage of this low, an area of high pressure advanced from North Dakota on the evening of the 11th to eastern Pennsylvania by the morning of the 14th, and thence moved northeastward, causing much cooler weather. Frosts were reported in upper Michigan, northern New York, and in New England, except on the coast, being particularly destructive to the Connecticut tobacco crop. From the 14th to 16th a low-pressure area passed through southern Canada, skirting our immediate northern border, and was attended by good rains in the northern tier of States from the upper Mississippi Valley eastward. In connection with this storm, advisory warnings were issued for the upper Lakes during the afternoon of the 14th, and later the same afternoon were extended to include Lake Erie. At 9.45 a. m. of the 15th, advisory warnings of brisk to high winds were disseminated along the Atlantic coast from Philadelphia to Eastport, and brisk to high winds were reported over the area covered by the advices. On the morning of the 16th a decided fall in barometer set in over the West Indies, a fall of 0.14 inch in 36 hours being indicated at one station and of 0.12 inch at another. Although the center of the disturbance and its intensity were not definitely known, the following advices were sent to stations in the West Indies and to ports on the Atlantic and Gulf coasts:

Some indications disturbance south of Haiti. Vessels bound for western portion Caribbean Sea should be cautious.

On the morning of the 17th advices were disseminated placing the center of the disturbance south-southwest of Jamaica. On the 18th the following was issued to ports on the Atlantic and Gulf coasts from Boston to New Orleans:

Indications disturbance in Caribbean Sea is west of Jamaica and approaching Yucatan Channel. Intensity unknown.

At Habana a wind velocity of 32 miles an hour from the northeast was reported as having occurred during the night of the 17th–18th. No further evidence of this storm has been reported.

Temperatures for the week ending the 18th were generally above normal, except in a large portion of the Plateau region, the North Pacific, and the Northeastern States. The minimum temperatures in the North Atlantic States on the morning of the 14th were as low as or lower than had occurred during the second decade of September in the last 40 years, while in Kansas a maximum of 100° was reported. A newspaper clipping from Kansas City states that on the 13th it was necessary to dismiss the school children on account of the heat. Precipitation for the week was light over large portions of the lake region and the Ohio and middle Mississippi valleys; elsewhere it was above normal. Falls of from 4 to 8 inches occurred in southeastern Kansas and southwestern Missouri. There are indications that the secondary low which developed over southern New England during the night of the 15th–16th moved southeastward and passed over Bermuda during the 17th, with barometer reading at 8 p. m. of that date 29.64 inches. With this storm at Bermuda and a high pressure area on the Atlantic coast centered at Father Point with a pressure of 30.34 inches, northeast storm warnings were issued on the afternoon of the 18th for the New England coast. A velocity of 48 miles from the northeast was reported at Nantucket the evening of the 18th and again on the morning of the 19th. Although no other verifying velocities were reported, winds approximating the verifying velocities occurred at Weather Bureau stations along the New England coast, and off the coast winds of storm force were undoubtedly experienced.

The following weekly forecast was issued Sunday the 17th:

The barometric pressure is low and falling at West Indian stations, and conditions are favorable to the formation of a disturbance in that region. There were indications Saturday and Sunday that a storm was in the early stages of development in the Caribbean Sea east of Jamaica and south of Haiti. Vessel masters at Atlantic and Gulf ports have been advised to this effect.

In the United States during the coming week the weather will be unsettled, with sharp changes in temperature over northern and central districts. A disturbance that is now over the plains States will advance eastward, preceded by warm weather and followed by a change to cooler weather, which will likely cause frosts by the first part of the week in the Northwestern States and by Wednesday in the Lake region, the upper Mississippi Valley, and the northern plains States. It will be attended by showers Monday in the great central valleys and Monday night or Tuesday in the Middle Atlantic and New England States. The next disturbance to cross the country will appear in the Northwest Wednesday, whence it will advance eastward, preceded by rising temperature, attended by local rains, and followed by a pronounced change to lower temperature; this disturbance will cross the Middle West Thursday or Friday and the Eastern States near the close of the week.

A disturbance appeared in the Canadian Northwest on the evening of the 15th; by the evening of the 16th it had

moved to the Dakotas, and on the evening of the 17th it was central over the upper Mississippi Valley. On the morning of the 18th this depression was central in the middle Mississippi Valley, while another low-pressure area had appeared at Winnipeg. The latter storm on the 19th was north of Lake Ontario and by the morning of the 20th had moved to the Canadian maritime Provinces. In connection with this storm showers and thunderstorms occurred in the upper Mississippi and Ohio Valleys and the lake region. Following this storm a high-pressure area advanced from the north Pacific coast on the morning of the 17th to the northern plateau on the following day. It passed thence to Kansas on the 19th and was central in the western lake region on the morning of the 20th and in northern New England on the 21st. Attending a pressure fall over the northern Rocky Mountain region, another low-pressure area developed during the night of the 20th over Nebraska, accompanied by general showers. On the morning of the 21st it was central over southern Lake Michigan. Thence it passed eastward, attended by well-distributed rains in northern and central States from the Mississippi Valley to the Atlantic seaboard. This low was followed by an area of high pressure attended by a change to cooler weather, light frost being reported in the northern part of the peninsula of Michigan on the morning of the 22d. A disturbance moved slowly eastward from the northern plateau and appeared on the night of the 23d in the form of a trough extending from Lake Michigan southwestward to the Texas Panhandle. It passed off the New England coast during the early morning of the 26th. Very little precipitation occurred within its immediate vicinity, but an area of showers and thunderstorms developed in its rear and advanced from the northern and middle Mississippi Valley on the morning of the 24th to the New England coast on the evening of the 26th. Following this disturbance cooler weather and high pressure prevailed, frost being reported on the morning of the 26th in Minnesota, northern Wisconsin, and upper Michigan and on the 27th in parts of eastern Pennsylvania, eastern New York, and New England.

For the week ending the 25th, temperatures averaged above normal in southern and eastern districts, while from the upper Mississippi Valley westward to the Pacific temperatures were almost continuously below normal the entire week. Precipitation for the country as a whole was unusually small in amount.

The following weekly forecast was issued Sunday, the 24th:

While there are no indications Sunday morning of a disturbance in South Atlantic waters, the general distribution of barometric pressure over middle and higher latitudes of the Atlantic Ocean portends threatening conditions the coming week in that region.

In the United States the coming week will be one of unsettled weather and well-distributed rains over the greater part of the country. Temperatures will average below the seasonal normal over practically the entire country east of the Rocky Mountains, and there is a likelihood of frost in northern districts. The principal disturbance of the week will develop over the western plateau Monday or Tuesday, cross the great central valleys Tuesday or Wednesday and the Eastern States Thursday or Friday. It will be attended by general rains and be followed by colder weather, except on the east Gulf and South Atlantic coasts.

A disturbance of pronounced character that is central in the region of Iceland, where the barometer reads 28.62 inches, will cause stormy weather over the British Isles and western Europe during the next several days.

The next disturbance appeared in Alberta on the evening of the 25th, moved to Saskatchewan by the morning of the 26th, and on the 27th was central at White River, attended by showers and thunderstorms in the lake regions and eastern Iowa. Advisory warnings of brisk to high winds over Lakes Huron, Erie, and Ontario were distributed the afternoon of the 27th. By the morning of the 28th this storm had moved to Nova Scotia, causing showers in New York, Pennsylvania, and New England. It was closely followed by an area of high pressure, which caused light frost in northwestern North Dakota on the morning of the 27th, in the northwestern upper lake region on the 28th, and in northern New England on the 29th. The evening weather map for the 27th showed the development of a slight disturbance over the middle slope of the Rocky Mountains. It passed northeastward and by the evening of the 28th was central over Iowa, showers and thunderstorms being reported over the Plains States, the upper Mississippi Valley, and the upper lake region. On the morning of the 29th the storm was over the eastern portion of the Province of Ontario. Southwest storm warnings were accordingly ordered the morning of that date for the New England coast from New Haven to Eastport and at noon were extended southward along the coast to Delaware Breakwater. On the evening of the 29th the storm center was near Cape Cod and increasing in intensity, and by the evening of the 30th had moved to a position east of Nova Scotia, with lowest reported barometer reading 29.26 inches. On the morning of the 28th the Pacific high-pressure area had pushed inland on the north Pacific coast, and, following the eastward passage of the low immediately before mentioned, a center of high pressure broke off, and on the morning of the 29th was central over the Dakotas. Frosts were reported in Idaho, North Dakota, and Montana, and freezing temperatures in Wyoming, warnings of which were disseminated the previous morning. This high moved rapidly eastward, causing decidedly cooler weather over northern and central districts. At the close of the month the high was central over the lower lake region, while a low of moderate intensity was central over the Plains States, attended by showers and thunderstorms generally from the Mississippi Valley westward to the Rockies, and also in the eastern portions of the southern and central plateau region. The month closed with temperatures in the Gulf States above the normal, while elsewhere they were below the seasonal average, being as much as 10° to 18° below in portions of the plateau region.

Average temperatures and departures from the normal.

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since Jan. 1.	Average departures since Jan. 1.
New England	12	59.9	−0.8	+ 3.9	+0.4
Middle Atlantic	15	63.7	+1.6	+ 9.5	+1.1
South Atlantic	10	77.8	+4.7	+17.6	+2.0
Florida Peninsula [1]	9	81.4	+2.1	+ 2.1	+1.4
East Gulf	11	80.8	+6.0	+25.0	+2.8
West Gulf	11	81.8	+6.1	+28.8	+3.2
Ohio Valley and Tennessee	14	72.9	+4.7	+21.4	+2.4
Lower Lakes	11	62.9	−0.2	+12.9	+1.4
Upper Lakes	13	58.9	−0.2	+21.2	+2.4
North Dakota [1]	9	54.4	−1.9	− 1.5	−0.2
Upper Mississippi Valley	14	67.1	+2.3	+24.4	+2.7
Missouri Valley	12	69.0	+3.7	+30.5	+3.4
Northern slope	10	56.6	−0.8	+ 3.0	+0.3
Middle slope	6	73.0	+5.4	+28.4	+3.2
Southern slope [1]	8	79.3	+6.4	+31.5	+3.5
Southern plateau [1]	9	80.3	+2.0	+ 1.7	+0.2
Middle plateau [1]	10	60.3	0.0	+ 3.6	+0.4
Northern plateau [1]	11	56.5	−2.5	− 5.4	−0.6
North Pacific	7	55.3	−1.6	−10.8	−1.2
Middle Pacific	5	61.8	−2.6	−13.3	−1.5
South Pacific	4	67.2	−0.8	− 1.4	−0.2

[1] Regular Weather Bureau and selected cooperative stations.

Average precipitation and departures from the normal.

Districts.	Number of stations.	Average. Current month.	Average. Percentage of normal.	Departure. Current month.	Departure. Accumulated since Jan. 1.
New England	11	2.64	84	−0.5	− 4.3
Middle Atlantic	15	2.03	61	−1.3	− 5.4
South Atlantic	11	3.58	76	−1.1	−15.7
Florida Peninsula [1]	8	3.46	47	−3.9	−13.10
East Gulf	11	2.74	69	−1.2	− 6.4
West Gulf	10	2.52	74	−0.9	− 5.1
Ohio Valley and Tennessee	13	4.19	150	+1.4	− 1.8
Lower Lakes	10	3.76	131	+0.9	− 0.2
Upper Lakes	13	3.96	125	+0.8	− 0.7
North Dakota [1]	9	2.23	137	+0.6	+ 0.8
Upper Mississippi Valley	15	6.97	195	+3.4	− 0.5
Missouri Valley	12	4.15	151	+1.4	− 5.2
Northern slope	9	1.95	186	+0.9	− 1.2
Middle slope	6	2.78	140	+0.8	− 2.9
Southern slope [1]	8	1.60	59	−1.1	− 4.8
Southern plateau [1]	9	1.70	155	+0.6	+ 2.6
Middle plateau [1]	11	1.45	138	+0.4	+ 0.8
Northern plateau [1]	11	0.99	100	0.0	− 2.3
North Pacific	7	3.55	139	+1.0	+ 7.7
Middle Pacific	7	0.15	27	−0.4	+ 3.1
South Pacific	4	0.34	142	+0.1	+ 7.5

[1] Regular Weather Bureau and selected cooperative stations.

Average relative humidity and departure from the normal.

Districts.	Average.	Departure.	Districts.	Average.	Departure.
New England	81	0	Upper Lakes	81	+ 4
Middle Atlantic	80	+ 3	North Dakota	78	+12
South Atlantic	83	+ 3	Upper Mississippi Valley	81	+ 9
Florida Peninsula	76	− 5	Missouri Valley	74	+ 8
East Gulf	80	+ 4	Northern slope	64	+ 9
West Gulf	75	+ 1	Middle slope	62	+ 4
Ohio Valley and Tennessee	79	+ 7	Southern slope	64	+ 1
Lower Lakes	77	+ 4	Southern plateau	52	+13

Average relative humidity and departure from the normal—Continued.

Districts.	Average.	Departure.	Districts.	Average.	Departure.
Middle plateau	45	+ 7	Middle Pacific	66	− 1
Northern plateau	49	− 3	South Pacific	66	0
North Pacific	82	+10			

Average cloudiness and departure from the normal.

Districts.	Average.	Departure.	Districts.	Average.	Departure.
New England	5.7	+0.5	Missouri Valley	5.1	+1.1
Middle Atlantic	5.2	+0.6	Northern slope	5.1	+1.1
South Atlantic	4.8	+0.1	Middle slope	4.2	+0.8
Florida Peninsula	4.3	−1.0	Southern slope	3.0	−0.8
East Gulf	4.2	−0.4	Southern plateau	3.4	+0.9
West Gulf	3.2	−1.0	Middle plateau	3.8	+0.9
Ohio Valley and Tennessee	5.2	+0.8	Northern plateau	4.7	+1.1
Lower Lakes	5.0	+0.2	North Pacific	6.6	+1.3
Upper Lakes	5.4	+0.2	Middle Pacific	3.4	0.0
North Dakota	5.5	+1.1	South Pacific	3.0	+0.4
Upper Mississippi Valley	6.1	+1.8			

Maximum wind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Alpena, Mich	28	51	se.	Point Reyes Light, Cal	2	72	nw.
Chicago, Ill	18	59	sw.	Do	3	65	nw.
Mount Tamalpais, Cal	3	76	nw.	Do	4	61	nw.
Do	4	60	nw	Do	5	52	nw.
Do	8	50	nw.	Do	8	50	nw.
Do	30	62	nw.	Do	15	54	nw.
New York, N. Y	30	62	n.	Southeast Farallon, Cal	3	50	nw.
North Head, Wash	14	56	se.				

RIVERS AND FLOODS, SEPTEMBER, 1911.

By H. C. FRANKENFIELD, Professor of Meteorology.

There were no floods of consequence during the month in the larger rivers, although a moderate one occurred about the middle of the month in the upper Ohio River and its tributaries. This flood was caused by heavy rains on September 14 and 15 over the upper Ohio watershed. Warnings were issued on September 15 for a stage of 22 feet at Pittsburgh, Pa., on the following day, and on September 16 for a 30-foot stage at Parkersburg, W. Va., within two days. Flood stages were exceeded in the Kiskiminetas River and in the lower portions of the Allegheny and the Monongahela Rivers, while at Pittsburgh the crest stage was 19.7 feet at 10 a. m., September 16. The smaller streams overflowed their banks, and these caused practically all the damage, which was about as follows:

Property, excluding crops	$200,000
Crops	25,000
Damage to farm lands	25,000
Suspension of business	25,000
Total	275,000

Value of property saved through Weather Bureau warnings, about $75,000. The warnings enabled more than 500 campers on the islands in the Allegheny River to move away, and constructors of dams and bridges along the Ohio River escaped loss, except that occasioned by the flooding of cofferdams.

At Parkersburg the crest stage was 29.9 feet at 10 a. m., September 18, only 0.1 foot below the stage forecast two days previously.

Excessive rains fell over northern Montana from September 4 to 6, inclusive, and the Milk River rose to 10.1 feet on September 7, 1.1 feet above flood stage. No damage appears to have been done, and the heavy rains, while they retarded harvesting operations somewhat, were of great benefit to the farmers. Eastern Kansas, Missouri, southern Iowa, and central Illinois were also visited by exceptionally heavy rains during the afternoon and night of September 6 and the morning of September 7, and all the smaller streams overflowed their banks, flooding crops in bottom lands, carrying away bridges, causing railroad washouts and much other damage of the usual character.

There were heavy rains on September 4 and 5 over the upper watershed of the Santee River of South Carolina, and on the morning of September 6 flood warnings were issued. The rivers did not quite reach the flood stage, but the warnings were nevertheless of great importance to cattle and other interests. The rivers had been low for some time, and warnings of any decided rise were necessary in order to protect property in the swamps and lowlands.

Frequent heavy rains brought many of the rivers of Indiana and Illinois to the flood stage on September 18 and 19, and much damage was done to corn on bottom lands, etc., except along the Illinois River, where there was not much loss. Warnings were issued for the lower Illinois River on September 19, and again on September 25, and at the end of the month the river was still rising from Peoria southward.

The Mississippi River exhibited a rising tendency below Lake Pepin after the first decade of the month on account of the heavy rains in Iowa, Missouri, and Illinois. The rise was most marked below the mouth of the Des Moines River, and below Cairo, Ill., it was supplemented by the tide from the Ohio River that reached Cairo on September 27. At the end of the month the rise was just beginning at the mouth of the Mississippi River.

The eastern, extreme western, and southern rivers were low throughout the month except in the Carolinas, where there were sharp rises during the first days of the month.

Hydrographs for typical points on several principal rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.

SPECIAL PAPERS ON GENERAL METEOROLOGY.

RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

C. FITZHUGH TALMAN, Librarian.

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies. Anonymous publications are indicated by a ———.

Alaska. Agricultural experiment stations.
Annual report, 1910. Washington. 1911. 85 p. 8°. [Contains condensed meteorological reports from 33 Alaskan stations.]

Arctowski, Henryk.
La dynamique des anomalies climatiques. Contribution à l'étude des changements de la répartition de la pression atmosphérique aux Etats-Unis. Warszawa. 1910. p. 179–196. 4°. (*Reprint:* Prac mat.-fiz. v. 21.)

Barnes, Howard T.
Report on ice formation in the St. Lawrence river . . . and the influence of icebergs on the temperature of the sea . . . Ottawa. 1911. 60 p. 8 charts. 8°. (Canada. Dept. marine & fisheries. 43d ann. rpt. 1909–10. Suppl.)

Bénard, Charles.
Mission arctique.—Stations scientifiques. Cartographie, Météorologie. Bordeaux. 1911. 62 p. 8°.

Brandt, Emil.
Einige Wetterregeln. n. t. p. [3] p. 4°.
Der Mond und das Wetter. (*In* "Die Wissenschaft für Alle." Berlin, 1909, Juli, Aug., pp. 111–113, 117–121.)
Mond und Wetter. n. t. p. 3 p. 4°.
Mond und Wetter: Ein Rückblick. (*In* "Die Gegenwart," Berlin, 1911, Nr. 33, p. 577–579. 4°.)
Mond und Wetter in der Heufieberzeit, Mitte Mai bis Mitte Juli 1911. Braunschweig. 1911. 12 p. 8°. (*Reprint:* 13. Ber. Heufieber-Bundes Helgolands e. V.)

Coaz, J.
Statistik und Verbau der Lawinen in den Schweizeralpen. Bern. 1910. 126, xxviii p. f°.

Eiffel, G.
La résistance de l'air. Examen des formules et des experiences. Paris. 1910. vii, 258 p. 8°.

Fernández, Jorge.
Clima, aguas, suelos de la provincia de Santiago del Estero [Argentine Republic]. (*In* Bol. Instit. geogr. argentino, Buenos Aires, Marzo-Abril, 1911, **25**:3–56.)

Geinitz, Franz Eugen.
Die Eiszeit. Braunschweig. 1906. 198 p. 8°. ("Die Wissenschaft" Heft 16.)

Germer, Herman.
Einfluss niederer Temperaturen (Frost) auf die Festigkeit von Mörtel, Mauerwerk und Beton. Berlin. 1911. 2 v. 8°.

Gerosa, Giuseppe.
Meteorologia. Torino. 1898. 196 p. ix pl. 4°.

Gill, Harry, & Guilford, Everard L. ed.
The rector's book Clayworth Notts [1672–1701]. Nottingham. 1910. [167] p. 9 pl. 8°. [Contains many records of weather, crops, and seasons.]

Glaisher, James.
Meteorological observations at Jerusalem. London. [1902?]. 25 p. 8°. [Rainfall records, 1861–1901; pressure and temperature, 1882–1901.]

Great Britain. Meteorological committee.
Sixth annual report, 1910. London. 1911. 164 p. 8°.

Greim, G.
Schätzung der mittleren Niederschlagshöhe im Grossherzogtum Hessen 1909. Darmstadt. 1910. p. 117–119. 8°.

Hahndorf, Carl.
Das Klima von Greifswald [1878–1908]. Greifswald. 1910. 88 p. 8°. (Diss.—Greifswald.)

Henkel, F. W.
Weather science; an elementary introduction to meteorology. London. 1911. 336 p. 8°.

Hess, Wilhelm.
Himmels- und Naturerscheinungen in Einblattdrucken des XV. bis XVIII. Jahrhunderts, mit 30 zum Teil farbigen Abbildungen. Leipzig. 1911. [vi], 114 p. f°. [An illustrated discussion of black-and-white and colored broadsides of the 15th to 18th centuries referring, in part, to meteorological phenomena.]

Hobbs, William Herbert.
Characteristics of existing glaciers. New York. 1911. 301 p. 8°.

Hoernes, Hermann.
Buch des Fluges. Wien. 1911. 2 v. 4°.

Holdefleiss, Paul.
Die klimatischen Vorbedingungen für den Obstbau (Feuchtigkeits-, Temperatur-, und Sonnenschein-Verhältnisse). Berlin. 1910. 8°. (*In* Ber. ü. Landwirtschaft, Bd. **17.**)

Kerillis, H. de.
L'aurore boréale. Théorie et lois héliodynamiques; nouvelle théorie de l'aurore. Paris. 1911. 233 p. 4°.

Kintzi, Artur Ernst Emanuel.
Galiziens landwirtschaftliche Klimatographie. Halle. 1910. 143 p. 8°. (Diss.—Halle-Wittenberg.)

Langley, S. P. & Manly, C. M.
Langley memoir on mechanical flight. Part 1, 1887–1896. Part 2, 1897–1903. Washington. 1911. 320 p. f°. (Smithson. contrib. knowl. v. 27, no. 3.)

Mill, Hugh Robert.
Rainfall [of Hampshire]. (*In* Grt. Brit. Geol. sur. Memoirs. "The water supply of Hampshire . . ." London. 1910. p. 9–17. 8°.)
The rainfall of Oxfordshire. (*In* Gr. Brit. Geol. sur. Memoirs. "The water supply of Oxfordshire . . ." London. 1910. p. 18–23. 8°.)
The rainfall of Sussex. (*In* Gr. Brit. Geol. sur. Memoirs. "The water supply of Sussex . . ." Suppl. London. 1911 p. 131–9. 8°.)

Müller, Rudolf Eugen.
Regenverteilung, Pflanzendecke und Besiedelung Oberguineas und des westlichen Sudan. Leipzig. 1910. 42 p. 8°. (Diss.—Heidelberg.)

Nelson, Edward Milles.
A numerical index of the weather of each month; and a temperature correction for glycerin barometers. London. 1910. 13 p. 16°.

Orléans, [Louis Philippe Robert] duc d'.
Campagne arctique de 1907. Journal de bord et physique du globe. Bruxelles. 1911. 99 p. f°. [Gives the results of observations in meteorology, terrestrial magnetism, and atmospheric electricity.]

Ramm, Eberhard.
Die Hagelversicherungsfrage in Württemberg. Tübingen. 1885. 124 p. 8°.

Richter, Johannes Paul.
Die klimatischen Grundlagen der landwirtschaftlichen Bodenkultur auf Madeira. Leipzig. 1909. 71 p. 8°. (Diss.—Leipzig.)

Rübel, Eduard.
Beiträge zur Kenntnis des photochemischen Klimas der Canaren und des Ozeans. (*In* Vierteljahrsschrift d. naturf. Gesells. Zürich, Bd. **54**, p. 279–308.)

Rŷnin, N.
Kurs vozdukhoplavanïîâ. Chast 1ia.—Aerologïîâ . . . Sanktpeterburg. 1910. 128 p. 4°. [Course in meteorology. pt. 1. Aerology.]

Saderra Masó, Miguel.
The eruption of Taal volcano January 30, 1911. Manila. 45 p. 4°. (Philippine weather bureau. [Publication.].) [Includes account of the atmospheric waves set up by the eruption.]

Schramm, C.
Der Hagelschaden. Praktische Anleitung zur sachgemässen Beurteilung und Regulierung von Hagelschaden. 5th ed. Zürich. 1902. 84 p. 8°.

Schünemann, Julius.
Untersuchungen über den elektrischen Zustand der Luft in Höhlen und Kellern. Göttingen. 1910. 35 p. 8°. (Diss.—Göttingen.)

Thuemen, N. von.
Geschichte des Hagelversicherungswesens in Deutschland bis zum Jahre 1895 und seine gegenwärtige Gestaltung. Dresden. 1896. 138 p. 8°.

Toulouse, C.
La prévision du temps à la campagne: observations populaires. Rodez. n. d. 35 p. 12°.

Transvaal. Meteorological department.
Annual report, 1910. Pretoria. 1910. 127 p. f°.

Wanach, Bernhardt.
Tafel der Werte $ab/a+b$ für alle zweistelligen Werte von a und b zur Berechnung der Gewichte von Summen, Differenzen, Mittelwerten, usw. Potsdam. 1910. 25 p. 8°.

Widtsoe, John Andreas.
Dry-farming, a system of agriculture for countries under a low rainfall. New York. 1911. 445 p. 12°.

Young, Ernest.
A rational geography. London. 1911. 3 v. 12°.

Yule, G. Udny.
An introduction to the theory of statistics. London. 1911. xii, 376 p. 12°.

RECENT PAPERS BEARING ON METEOROLOGY.

C. FITZHUGH TALMAN, Librarian.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. These titles are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index of the meteorological contents of all journals from which it has been compiled; it shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau. Unsigned articles are indicated by a ———.

Knowledge. London. v. 34. October, 1911.
Clark, J. Edmund. The meteorology of the upper air. p. 373–378.

Meteorological society of Japan. Journal. Tokio. 30th year. August, 1911.
Tsuiji, Y. On the earth temperature at Taihoku. p. 1–15.
Hirata, S. Land and sea breezes in Chemulpo. p. 17–21.
Okada, T. Note on the condensation hygrometer. p. 23–33.

Nature. London. v. 87. 1911.
Bemmelen, W. van. The upper trade winds. p. 415. (Sept. 28.) [On the occurrence of an equatorial current above the anti-trades.]
Harding, Cha[rle]s. The summer of 1911. p. 485–490. (Oct. 12.)

Royal meteorological society. Quarterly journal. London. v. 37. July, 1911.
Turner, H. H. What can we learn from rainfall records? p. 209–220.
Marriott, William. Variations in the English climate during the thirty years 1881–1910. p. 221–242.
Ley, C. H. The value of the two-theodolite method for determining vertical air motion. p. 243–246.
Ley, C. H. An automatic valve for pilot balloons. p. 247–250.

Science. New York. v. 34. 1911.
Bergen, J. Y. House air. p. 407–408. (Sept. 29.)
Watson, F. R. Musical echoes. p. 454–455. (Oct. 6.)

Scientific American. New York. v. 105. 1911.
——— Atmospheric pressure in past geological ages. p. 319. (Oct. 7.) [Abstract from "Cosmos." Dimensions of fossil birds and insects indicate that the air was formerly denser.]
——— A weather forecasting competition. p. 335. (Oct. 14.)
——— Hail insurance. p. 336. (Oct. 14.)
Loening, Grover Cleveland. Progress in aerodynamics. Studying the aeroplane in the laboratory. p. 340–341. (Oct. 14.)
——— Meteorology in American universities. p. 343. (Oct. 14.)
——— The status of agricultural meteorology. p. 382. (Oct. 28.)

Scientific American supplement. New York. v. 72. October 28, 1911.
——— Frost protection in fruit orchards. How heavy losses are averted. p. 281–282.

South African journal of science. Cape Town. v. 8. 1911.
Goetz, E. Weather forecasts. p. 15–20; 21–30. (Aug., Sept.)

Symons's meteorological magazine. London. v. 46. October, 1911.
——— The hot weather of July-September, 1911, in London. p. 173.

Ciel et terre. Bruxelles. 32. année. Septembre 1911.
Boutquin, A. La télégraphie sans fil appliquée à la météorologie, aux prévisions du temps et à l'étude de la physique du globe. p. 281–295.

Ciel et terre—Continued.
Moidrey, J. de, S. J. L'insolation à Zi-ka-wei (Chine). p. 298–301.
Jans, C. de. Coup d'œil rétrospectif sur les essais d'explication de la foudre globulaire. p. 301–307.

Cosmos. Paris. 60. année. 30 septembre 1911.
——— Influences multiples de l'électricité atmosphérique sur les antennes radio-télégraphiques. p. 366. [Hertzian waves due to lightning are of frequency low enough to be directly detected by the ear, by means of telephone attachment to the cerauno-graph.]

Nature. Paris. 30. année. 7 octobre 1911.
Renaudot, G. Les déformations du soleil. p. 289–291.

Technique aéronautique. Paris. No. 40. 1911.
Lafay, —. Étude photographique du champ aérodynamique. p. 91–98. (15 août.)
Guilbert, Gabriel. Nouvelle méthode de prévision du temps et ses applications. p. 153–167. (15 sept.)
Lacoin, Louis. Résistance et mouvements de l'air. p. 185–198. (1 oct.)

Annalen der Hydrographie und maritimen Meteorologie. Berlin. 39. Jahrgang. Heft 10. 1911.
——— Die Witterung und die phänologischen Erscheinungen zu Tsingtau in dem Jahre vom Dezember 1909 bis zum November 1910. p. 541–556.

Deutscher Luftschiffer-Verband. Jahrbuch. Berlin. 1911.
Bjerknes, V[ilhelm]. Luftbewegung und Luftschiffahrt. p. 3–14.
Süring, R[einhard]. Einige Ergebnisse von acht gleichzeitigen Ballonaufsteigen am 13. März 1910. p. 15–28.
Schubert, Joh[annes]. Die Zustandsänderungen bei vertikaler Luftbewegung und der Grad der Schichtung in der Atmosphäre. p. 29–38.
Polis, P[eter]. Die Methode der Pilotballonmessungen für Aerologie und Luftschiffahrt, insbesondere ihre Ergebnisse am Aachener Observatorium. p. 39–58.
Budig, W[alter]. Meteorologische und luftelektrische Beobachtungen auf eine Fahrt des Freiballons "Tschudi." p. 58–66.
Wegener, Alfred. Photographie optischer Erscheinungen vom Ballon aus. p. 74–82.

Geographische Zeitschrift. Leipzig. 17. Jahrgang. 8. heft. 1911.
Hettner, Alfred. Die Klimate der Erde. p. 425–435.

Meteorologische Zeitschrift. Braunschweig. Band 28. September 1911.
Kohlschütter, E. Die periodischen Fehler barometrisch bestimmter Höhenunterschiede in der inneren Tropenzone und ein Satz von Teisserenc de Bort. p. 385–401.
Schmidt, Wilhelm. Nachweis von Perioden langer Dauer. p. 401–407.
Johansson, Osc[ar] V. Die Bewölkung auf den Färöern. p. 407–410.
Hann, J[ulius]. Klima von Vizagapatam (Indien). p. 411–412.
——— Meteorologische Beobachtungen zu Puerto Cobija im Innern von Bolivien im Jahre 1909. p. 415–416.
Meissner, Otto. Der jährliche Gang der Häufigkeit der klaren Abende in der Ebene und im Gebirge. p. 417–418.
——— Meteorologische Beobachtungen zu Mahé (Seychellen). p. 418.
Friesenhof, Gregor. Ein Gegensatz zwischen amerikanischen und europäischen Hochdruckgebieten. p. 418–419.
——— Alfred Wegener: Untersuchungen über die Natur der obersten Atmosphärenschichten. p. 420–422. [Abstract.]
——— Mittlere Temperaturen im Staate Paraná (Brasilien).
H[ann], J[ulius]. Zum Klima der Kermandec-Inseln. p. 422–423.
——— Meteorologische Beobachtungen zu Lu-kia-pang, China, 1910. p. 423–424.
——— Paul Samel: Über die Verwendbarkeit von Siedethermometern und Quecksilberthermometern zur Höhenmessung. p. 424–425.
——— H. Walter: Über Doppelaufnahmen von Blitzen mit einer stehenden und einer bewegten photographischen Kamera. p. 426–427. [Abstract.]
Hagelssen, A. Über elfjährige Temperaturperioden. (Im Zusammenhang mit den elfjährigen Sonnenfleckenperioden.) p. 1–10, Beilage.
Hagelssen, A. Über fünfjährige Temperaturperioden. (Im Zusammenhang mit den Sonnenflecken.) p. 10–20, Beilage.
Hagelssen, A. Über einjährige Temperaturfluktuationen. (Im Zusammenhang mit den Sonnenflecken.) p. 21–23, Beilage.

Physikalische Zeitschrift. Leipzig. 12. Jahrgang. 15. Oktober 1911.
Berndt, Georg. Bestimmung des Ionengehaltes auf dem Atlantischen Ozean. p. 857–865.

Wetter. Berlin. 28. Jahrgang. August 1911.
Meissner, Otto. Der tägliche Gang der Temperatur in Potsdam (Telegraphenberg: 1901–1907.) p. 169–175.
Budde, G. Über Hageldonner. p. 175–177.
Grosse, —. Sonnenschein und Tageshelligkeit. p. 183–186.
Lehnhardt, Rudolf. Über einige Pilotaufstiege. p. 189–192.

CONDENSED CLIMATOLOGICAL SUMMARY.

In the following table are given, for the various sections of the Climatological Service of the Weather Bureau, the average temperature and rainfall, the stations reporting the highest and lowest temperatures with dates of occurrence, the stations reporting the greatest and least monthly precipitation, and other data, as indicated by the several headings.

The mean temperatures for each section, the highest and lowest temperatures, the average precipitation, the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperature and precipitation are based only on records from stations that have 10 or more years of observations. Of course, the number of such records is smaller than the total number of stations.

Temperature and precipitation by sections, September, 1911.

Sections.	Temperature (° F.).							Precipitation (in inches and hundredths).					
			Monthly extremes.							Greatest monthly.		Least monthly.	
	Section average.	Departure from the normal.	Station.	Highest.	Date.	Station.	Lowest.	Date.	Section average.	Departure from the normal.	Station.	Amount.	Station.	Amount.
Alabama	80.4	+5.3	Maple Grove	105	28	Riverton	52	23	2.32	−0.78	Highland Home	5.98	Cordova	T.
Arizona	75.3	+0.3	Gilabend	117	1	Flagstaff(2)	30	6	2.22	+0.99	Dos Cabezos	5.50	Yuma (1)	0.12
Arkansas	79.0	+5.4	Lewisville	102	27†	Bergman	46	22	3.67	+0.65	Rogers	10.00	Eldorado	0.00
California	64.4	−3.8	Blythe	112	2	Alturas	17	18	0.31	−0.19	Rialto	3.66	Many stations	0.00
Colorado	59.8	+1.6	2 stations	101	1†	Fraser	15	21	1.70	+0.04	Silverton (near)	6.45	Lamar	0.00
Florida	81.2	+2.0	4 stations	100	13†	Mount Pleasant	58	3	3.95	−3.25	Tarpon Springs	14.27	Monticello	0.40
Georgia	79.6	+4.8	Lumpkin	105	30	Mineral Bluff	58	8	2.95	−0.74	Glennville	8.59	Norcross	0.28
Hawaii (August)	74.3	.....	Molokai Ranch	93	18	Humuula	43	7	5.68	.....	Hakalau	32.85	2 stations	0.00
Idaho	56.4	−1.7	2 stations	101	1†	Chesterfield	10	16	0.80	+0.08	Porthill	3.94	3 stations	0.00
Illinois	69.7	+2.6	2 stations	99	2†	Lanark	36	30	8.84	+5.19	Monmouth	20.03	Lagrange	3.64
Indiana	69.7	+3.0	3 stations	96	2	Hammond	38	30	6.02	+0.55	Vincennes	14.80	Richmond	2.98
Iowa	65.8	+2.1	Ottumwa	103	1	3 stations	32	19	5.12	+1.71	2 stations	13.73	Logan	1.19
Kansas	74.7	+5.8	Alton	109	13	2 stations	36	19	3.19	+0.50	Fort Scott	11.18	Coolidge	0.00
Kentucky	74.3	+3.8	Earlington	99	18	Farmers	46	12	3.71	+1.13	Scott	7.46	Bowling Green	0.40
Louisiana	82.2	+4.8	Liberty Hill	104	16	Grand Cane	51	1	3.14	−0.81	Lawrence	8.05	Ferriday	0.10
Maryland and Delaware	69.3	+1.9	2 stations	95	2†	Deer Park, Md.	30	14	2.72	−0.70	Grantsville, Md	6.28	Annapolis, Md	0.92
Michigan	59.6	−0.5	Port Austin	97	2	2 stations	20	28	3.81	+0.81	Bay City	7.85	Muskegon	0.93
Minnesota	56.7	−1.1	Winnebago	95	1	3 stations	22	12†	3.34	+0.56	Two Harbors	7.00	International Falls	1.00
Mississippi	81.2	+5.7	Magnolia	103	14	2 stations	55	22†	1.86	−1.34	Waynesboro	8.06	Woodland	0.00
Missouri	73.7	+4.7	Steffenville	105	2	Sublett	39	22	7.13	+3.55	Sublett	14.95	Koshkonong	2.09
Montana	52.4	−1.9	2 stations	94	2†	Bowen	8	25	2.42	+1.06	Knobles Ranch	8.47	Bridger	0.39
Nebraska	67.3	+3.1	Cambridge	106	13	2 stations	26	19	2.11	0.00	Pawnee City	9.86	Bridgeport	0.15
Nevada	57.5	−2.7	Logan	107	1	Halleck	10	19	0.35	−0.06	Logan	1.63	9 stations	0.00
New England	59.1	−0.9	2 stations	88	2	Norfolk, Mass	21	14	3.34	−0.18	Worcester, Mass	5.74	Bristol, R. I	1.46
New Jersey	66.4	+0.6	Somerville	90	2	Layton	30	14	2.88	−1.13	Hammonton	5.33	Cape May	1.08
New Mexico	67.2	+2.2	2 stations	100	8†	Elizabethtown	24	21	1.78	+0.14	Cloudcroft	3.99	Newman	0.27
New York	59.3	−1.1	2 stations	90	2†	Spier Falls	19	15	3.55	+0.10	Salisbury	7.29	New York	1.51
North Carolina	75.1	+4.6	2 stations	98	11†	Scotland Neck	45	14	3.37	−0.21	Brevard	7.65	Neuse	0.62
North Dakota	54.9	−2.3	Forman	95	1	Hannah	21	24	2.49	+0.82	New Salem	4.98	Pembina	0.89
Ohio	67.5	+1.8	Peebles	97	5	Garrettsville	33	14	4.87	+2.08	Cincinnati	7.52	Norwalk	2.11
Oklahoma	79.7	+6.1	Mangum	105	4	Kenton	38	21	2.50	−0.27	Fairland	5.76	Woodward	0.41
Oregon	55.6	−2.7	3 stations	99	1†	Cliff	13	18	2.60	+1.40	Musick	11.24	Huntington	T.
Pennsylvania	64.9	+1.1	Claysville	92	8	Pocono Lake	26	14	5.29	+2.21	Somerset	10.18	Bethlehem	1.85
Porto Rico	79.0	+0.2	Canovanas	99	18	Corozal	58	22	6.23	−2.06	Mayaguez	16.60	Santa Isabel	1.64
South Carolina	78.9	+4.7	Santuc	100	9†	Heath Springs	50	14	3.33	−0.63	Yemassee	7.42	Greenwood	0.74
South Dakota	61.7	+0.3	3 stations	100	1†	2 stations	27	17†	2.14	+0.66	Wentworth	5.95	Harveys Ranch	0.40
Tennessee	76.8	+6.0	Union City	105	3†	2 stations	49	23	2.51	−0.52	Johnsonville	5.00	Memphis	0.16
Texas	82.2	+5.1	Bonham	107	12	Plemons	40	21	1.61	−1.22	Raymondville	5.60	2 stations	0.00
Utah	61.6	+0.9	2 stations	102	1†	Scofield	13	7	1.84	+0.82	Ranch	6.14	Wendover	0.56
Virginia	71.2	+3.3	Warsaw	95	7†	Dale Enterprise	35	14	2.01	−1.33	Mendota	4.38	Norfolk	0.63
Washington	56.3	−1.9	Kennewick	100	1†	Colfax	22	24†	3.01	+1.09	Yale	8.63	Omak	0.15
West Virginia	68.8	+3.1	Weston	100	7	Bayard	32	14	4.67	+1.90	Pickens	8.30	Green Sulphur Springs	2.03
Wisconsin	59.0	−1.0	Brodhead	93	1	Deerskin Dam	18	28	5.24	+2.35	Menasha	9.12	Twin Lakes Dam	2.37
Wyoming	53.4	+0.3	Fort Laramie	100	3	Fountain, Y. N. P.	4	19	1.01	−0.13	Rambler	3.97	Barnum	T.

† Other dates also.

TABLE I.—*Climatological data for United States Weather Bureau stations, September, 1911.*

Districts and stations.	Elevation of instruments.			Pressure in inches.			Temperature of the air, in degrees Fahrenheit.										Mean wet thermometer.	Mean temperature of the dew point.	Mean relative humidity, per cent.	Precipitation, inches.			Wind.						Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Total snowfall.	Snow on ground at end of month.
	Barometer above sea level, feet.	Thermometer above ground.	Anemometer above ground.	Station, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean max. + mean min. ÷ 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.					Total.	Departure from normal.	Days with 0.01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.						
New England.							**59 9**	**− 0.8**								**81**	**2 64**	**− 0.5**											**5.7**		
Eastport	76	67	85	29.94	30.03	.00	54.4	− 0.8	73	20	61	35	29	48	20	51	48	83	2.67	− 0.3	15	7,518	s.	40	se.	6	6	11	13	6.5		
Greenville	1,070	6	....	28.89	30.06	.....	52.6	.....	78	2	62	27	14	43	35	.....	.....	.....	3.89	.....	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.2	....
Portland, Me	103	81	117	29.94	30.06	+ .01	57.8	− 1.8	82	25	66	37	29	50	31	52	48	73	2.84	− 0.4	14	6,755	nw.	36	s.	6	10	11	9	5.3	.....	.....
Concord	288	70	79	29.75	30.06	.00	58.0	− 1.1	86	2	70	29	14	46	33	.....	.....	.....	2.93	− 0.3	13	3,438	nw.	24	nw.	30	7	17	6	5.3	T.	.....
Burlington	404	11	48	29.62	30.06	.00	56.4	− 2.5	81	2	66	32	14	47	29	.....	.....	.....	3.46	+ 0.1	13	7,072	s.	38	s.	27	11	10	9	5.1	.....	.....
Northfield	876	16	60	29.13	30.08	+ .02	53.7	− 0.9	82	2	66	25	14	42	34	50	48	86	2.53	− 0.2	16	4,891	s.	26	n.	28	6	14	10	6.0	T.	.....
Boston	125	115	188	29.92	30.06	− .01	62.6	− 0.1	85	2	70	41	14	55	25	57	54	77	2.95	− 0.2	10	6,851	nw.	29	se.	15	10	7	13	5.7	.....	.....
Nantucket	12	14	90	30.05	30.06	+ .02	61.2	− 1.6	75	12	66	46	14	56	18	59	57	89	3.34	+ 0.6	13	11,724	ne.	48	ne.	18	8	9	13	6.5	.....	.....
Rock Island	26	11	46	30.03	30.06	− .02	63.0	− 1.1	78	3	68	46	14	58	18	61	59	89	2.03	− 1.0	10	11,243	sw.	48	nw.	30	6	8	16	6.6	.....	.....
Narragansett	....	9	....	.....	.....	.....	62.2	− 0.6	82	3	69	36	29	55	26	.....	.....	.....	3.26	.....	10	.....	sw.	.....	.....	.....	13	7	10	.....	.....	.....
Providence	160	141	165	29.90	30.07	.00	62.6	− 0.6	83	6	71	38	14	54	24	59	56	83	2.01	− 1.2	11	6,515	n.	34	n.	30	8	14	8	5.4	.....	.....
Hartford	159	122	140	29.89	30.06	− .01	62.8	+ 1.1	83	2	72	37	14	54	27	57	54	77	2.00	− 1.5	12	4,935	n.	27	s.	15	9	12	9	5.9	.....	.....
New Haven	106	116	155	29.94	30.06	− .01	64.2	+ 0.3	84	6	73	39	14	56	27	58	54	75	2.33	− 1.5	9	6,423	n.	29	s.	15	13	11	6	4.6	.....	.....
Middle Atlantic States.							**63.7**	**+ 1.3**								**80**	**2.03**	**− 1.3**											**5.2**		
Albany	97	102	115	29.95	30.06	− .01	62.7	+ 0.4	90	2	72	38	14	53	29	56	53	76	2.86	− 0.3	12	5,273	s.	31	se.	6	18	5	7	4.3	.....	.....
Binghamton	871	78	88	29.14	30.06	− .01	60.2	+ 0.2	85	2	71	31	14	49	33	.....	.....	.....	2.35	− 0.4	10	3,730	ne.	27	s.	6	5	15	10	5.8	.....	.....
New York	365	414	454	29.72	30.05	− .03	66.6	+ 0.1	83	6	74	48	14	60	25	60	56	73	1.51	− 2.1	11	10,717	n.	62	n.	30	11	11	8	5.4	.....	.....
Harrisburg	374	94	104	29.68	30.08	.00	66.6	+ 1.7	85	2	75	46	30	58	25	60	57	76	3.68	+ 0.8	11	3,716	e.	22	nw.	29	11	12	7	5.0	.....	.....
Philadelphia	117	123	184	29.95	30.07	− .01	68.6	+ 1.2	86	3	76	46	14	61	25	63	60	80	2.52	− 0.9	7	6,152	n.	26	n.	30	9	16	5	5.4	.....	.....
Scranton	805	111	119	29.22	30.08	+ .01	62.4	+ 0.2	86	2	72	34	14	53	31	58	56	80	2.90	0.0	11	4,230	s.	22	se.	5	9	14	7	5.1	.....	.....
Atlantic City	52	37	48	30.01	30.07	.00	68.0	+ 0.4	88	6	74	46	14	62	23	64	62	83	3.02	0.0	10	5,249	n.	30	s.	29	9	9	12	5.5	.....	.....
Cape May	17	9	56	30.07	30.09	+ .02	69.4	+ 0.4	86	6	76	45	14	62	23	65	63	84	1.08	− 1.9	6	5,276	ne.	30	se.	15	11	16	3	4.8	.....	.....
Baltimore	123	100	113	29.94	30.07	− .01	70.4	+ 1.8	89	25	78	49	14	63	24	64	62	78	1.60	− 2.2	7	4,341	n.	23	nw.	30	7	15	8	5.3	.....	.....
Washington	112	62	85	29.95	30.07	− .01	70.4	+ 2.3	89	7	80	46	14	61	25	64	62	80	2.03	− 1.6	9	3,664	n.	22	nw.	29	8	11	11	5.7	.....	.....
Lynchburg	681	83	88	29.34	30.08	.00	72.5	+ 4.1	90	7	82	49	14	63	29	66	64	82	0.85	− 2.8	8	1,864	e.	26	nw.	12	12	16	2	4.9	.....	.....
Mount Weather	1,725	10	54	28.27	30.05	− .02	65.4	+ 3.0	81	25	72	43	14	58	29	60	57	80	1.43	− 1.4	6	9,462	nw.	39	w.	29	7	15	8	5.7	.....	.....
Norfolk	91	102	111	29.98	30.08	+ .02	74.4	+ 2.7	88	6	81	58	14	68	23	68	66	80	0.63	− 3.4	6	5,619	ne.	24	s.	15	10	12	8	5.3	.....	.....
Richmond	144	189	197	29.93	30.08	+ .01	72.5	+ 1.7	91	3	82	48	14	63	25	66	64	82	1.85	− 1.6	6	4,281	ne.	45	nw.	12	6	15	9	5.7	.....	.....
Wytheville	2,293	40	47	27.76	30.08	+ .01	69.0	+ 5.4	86	7	79	50	14	59	30	63	61	85	2.22	− 1.1	8	2,483	w.	22	w.	29	15	15	0	3.5	.....	.....
South Atlantic States.							**77.8**	**+ 4.7**								**83**	**3 58**	**− 1.1**											**4.8**		
Asheville	2,255	53	75	27.79	30.09	+ .02	71.0	+ 6.0	86	7	81	55	15	61	30	64	62	85	2.26	− 0.8	15	3,844	nw.	30	nw.	13	6	18	6	5.4	.....	.....
Charlotte	773	68	76	29.26	30.08	+ .01	76.4	+ 5.7	92	28	85	59	14	68	24	69	66	79	4.76	+ 1.5	8	3,227	ne.	28	w.	11	7	15	8	5.7	.....	.....
Hatteras	11	12	47	30.05	30.06	.00	76.0	+ 1.3	86	10	81	62	15	71	17	72	70	83	5.08	− 0.2	12	8,236	sw.	48	nw.	16	16	11	3	4.0	.....	.....
Manteo	12	12	46	.....	.....	.....	.....	.....	91	26	.....	58	2	.....	.....	.....	.....	.....	2.01	− 3.3	7	.....	ne.	.....	.....	.....	18	7	5	.....	.....	.....
Raleigh	376	103	110	29.68	30.06	− .01	76.1	+ 5.5	92	7	85	52	14	67	27	68	66	79	1.74	− 1.6	8	4,343	ne.	24	n.	16	7	18	5	5.2	.....	.....
Wilmington	78	81	91	29.99	30.07	+ .02	77.6	+ 4.5	92	16	85	58	14	70	21	71	70	87	5.79	+ 0.5	12	4,296	sw.	35	nw.	11	7	17	6	5.3	.....	.....
Charleston	48	11	92	30.02	30.07	+ .03	80.2	+ 4.0	95	11	86	69	19	74	19	76	74	87	5.24	− 0.2	14	5,942	s.	28	e.	14	15	13	2	3.9	.....	.....
Columbia, S. C	351	41	57	29.70	30.07	+ .02	79.1	+ 5.4	94	16	88	64	14	70	23	71	68	79	6.10	+ 2.6	8	3,543	sw.	22	ne.	21	5	21	4	5.4	.....	.....
Augusta	180	89	97	29.87	30.06	+ .01	80.4	+ 6.0	94	16	89	69	13	71	23	72	70	81	1.50	− 2.2	9	3,022	ne.	23	sw.	20	7	19	4	5.1	.....	.....
Savannah	65	150	194	30.00	30.07	+ .04	80.1	+ 4.7	95	13	88	69	19	72	23	74	72	86	4.00	− 1.6	13	5,734	sw.	35	e.	17	6	19	5	5.4	.....	.....
Jacksonville	43	96	129	30.02	30.07	+ .0	81.5	+ 4.2	96	13	90	68	19	74	22	75	73	84	0.90	− 7.1	7	4,702	e.	27	nw.	17	17	12	1	3.0	.....	.....
Florida Peninsula.							**82 0**	**+ 1.6**								**76**	**4.49**	**− 3.4**											**4.3**		
Key West	22	10	53	29.97	29.99	+ .05	82.5	0.0	90	13	88	72	19	77	15	76	74	77	2.05	− 4.7	13	6,069	ne.	28	e.	10	10	15	5	4.6	.....	.....
Miami	25	37	72	29.99	30.02	.....	82.0	+ 0.5	92	13	88	70	20	76	21	75	73	75	4.42	− 5.2	17	6,219	ne.	26	ne.	14	7	16	7	5.2	.....	.....
Tampa	35	79	96	30.00	30.04	+ .07	81.3	+ 3.0	93	1	90	69	2	72	21	75	73	85	7.01	− 0.4	14	4,038	ne.	42	se.	2	14	16	0	3.6	.....	.....
Titusville	25	6	....	30.00	30.05	.....	82.2	+ 3.1	96	12	91	66	19	74	27	.....	.....	.....	1.78	.....	17	.....	.....	.....	.....	.....	.....	.....	17	11	2	3.9	.....	.....
East Gulf States.							**80.8**	**+ 6.0**								**80**	**2.74**	**− 1.2**											**4.2**		
Atlanta	1,174	190	216	28.86	30.08	+ .03	78.2	+ 6.1	91	28	87	64	1	70	25	70	67	76	1.41	− 2.1	10	5,842	ne.	36	nw.	13	11	11	8	5.3	.....	.....
Macon	370	78	87	29.68	30.07	+ .04	80.1	+ 7.2	96	13	90	65	13	71	31	.....	.....	.....	3.81	+ 0.4	11	2 753	n.	38	nw.	21	10	15	5	4.7	.....	.....
Thomasville	273	8	57	29.76	30.05	+ .04	81.4	+ 4.6	97	13	92	67	19	71	26	74	72	87	2.52	− 1.7	11	2,599	e.	20	sw.	16	14	12	4	4.0	.....	.....
Pensacola	56	140	183	30.00	30.06	+ .05	81.7	+ 3.8	94	14	88	69	23	76	16	.....	.....	.....	2.60	− 2.6	7	6,122	s.	31	e.	23	13	11	6	4.6	.....	.....
Anniston	741	9	57	29.31	30.09	+ .06	78.7	+ 7.4	94	13	90	60	1	68	28	.....	.....	.....	1.36	− 2.2	5	2,589	se.	21	nw.	11	8	15	7	5.1	.....	.....
Birmingham	700	11	48	29.32	30.08	+ .05	80.4	+ 6.4	96	14	91	60	1	70	29	71	68	76	2.05	− 1.4	8	3,190	s.	24	w.	14	11	18	1	3.9	.....	.....
Mobile	57	98	106	29.98	30.04	+ .04	82.0	+ 5.5	96	13	90	70	20	74	20	75	73	80	4.09	− 0.9	7	3,876	nw.	24	nw.	18	17	6	7	4.0	.....	.....
Montgomery	223	100	112	29.82	30.06	+ .04	81.6	+ 5.8	96	14	92	66	1	72	25	72	70	78	1.36	− 1.5	9	3,196	e.	27	n.	6	7	21	2	4.8	.....	.....
Meridian	375	84	93	29.66	30.04	+ .02	80.0	+ 7.3	96	13	90	61	1	70	26	72	70	81	3.09	− 0.4	8	2 357	sw.	18	ne.	24	15	12	3	4.1	.....	.....
Vicksburg	247	62	74	29.78	30.06	+ .04	81.7	+ 6.9	95	12	91	69	24	73	21	73	71	79	2.47	− 0.9	6	3 343	e.	16	ne.	23	10	17	3	4.4	.....	.....
New Orleans	51	90	121	29.98	30.03	+ .05	82.6	+ 4.6	94	13	90	72	5	76	18	76	74	83	5.43	+ 0.6	16	3 773	se.	26	se.	30	3	21	6	5.7	.....	.....
West Gulf States.							**81.8**	**+ 6.1**								**75**	**2.52**	**− 0.9**											**3.2**		
Shreveport	249	77	84	29.76	30.02	+ .02	82.5	+ 6.8	96	12	92	66	1	73	23	74	71	77	0.93	− 2.3	5	3,067	se.	21	s.	30	22	5	3	2.8	.....	.....
Bentonville	1,303	11	44	28.68	30.01	− .01	75.8	+ 6.9	95	12	86	53	22	66	29	.....	.....	.....	5.90	+ 2.4	7	3,201	s.	16	s.	30	23	3	4	2.6	.....	.....
Fort Smith	457	79	94	29.52	29.98	− .03	80.0	+ 7.3	98	13	90	61	22	70	24	71	69	76	4.42	+ 1.2	7	4,426	e.	26	e.	18	22	4	4	2.3	.....	.....
Little Rock	357	139	147	29.66	30.03	.00	79.4	+ 6.3	96	12	88	59	22	70	22	73	71	83	6.43	+ 3.2	6	4.718	sw.	46	n.	18	18	8	4	2.9	.....	.....
Brownsville	57	4	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Corpus Christi	20	69	77	29.96	29.98	+ .03	83.0	+ 4.0	92	5	88	72	2	78	14	77	75	82	1.77	− 2.2	9	9,737	se.	34	se.	7	18	12	0	3.1	.....	.....
Fort Worth	670	106	114	29.26	29.96	− .03	82.3	+ 5.6	98	12	92	66	19	72	27	70	64	62	1.38	− 1.6	4	6,419	s.	34	se.	29	22	6	2	2.6	.....	.....
Galveston	54	106	112	29.96	30.02	+ .04	83.6	+ 4.2	90	19	88	72	24	80	14	77	75	79	3.50	− 1.9	10	6.658	se.	23	sw.	2	13	15	2	3.9	.....	.....
Houston	138	111	121	29.87	30.01	.....	82.6	+ 4.6	96	12	91	68	22	74	23	.....	.....	.....	3.14	.....	13	4,183	se.	38	e.	22	11	16	3	4.6	.....	.....
Palestine	510	73	79	29.48	29.99	.00	82.4	+ 7.7	96	12	92	65	1	72	24	72	69	73	0.59	− 2.6	2	4.633	s.	24	s.	30	17	12	1	3.6	.....	.....
San Antonio	701	80	91	29.25	29.96	.00	84.6	+ 7.5	97	17	95	68	1	74	26	72	68	68	0.12	− 2.8	2	3,577	se.	22	n.	22	16	12	2	3.7	.....	.....
Taylor	583	55	63	29.40	30.01	+ .04	83.1	+ 6.2	97	12	94	65	1	72	27	.....	.....	.....	0.26	− 2.8	4	4,981	s.	28	se.	23	21	8	1	2.8	.....	.....
Ohio Valley and Tenn.							**72.9**	**+ 4.7**								**79**	**4.19**	**+ 1.4**											**5.2**		
Chattanooga	702	189	213	29.29	30.08	+ .02	77.8	+ 6.6	92	28	88	64	23	68	26	69	67	77	2.97	− 0.3	9	3,786	sw.	33	nw.	21	11	15	4	4.7	.....	.....
Knoxville	996	93	100	29.04	30.07	+ .01	77.1	+ 7.7	92	8	87	63	27	67	27	69	66	79	1.89	− 0.9	8	2,680	ne.	34	nw.	13	8	15	7	5.2	.....	.....
Memphis	399	76	97	29.64	30.06	+ .03	79.8	+ 7.0	94	13	88	58	22	72	22	72	66	74	0.16	− 2.9	5	4.483	sw.	26	sw.	19	16	12	2	3.1	.....	.....
Nashville	546	108	191	29.49	30.06	.00	77.6	+ 6.1	93	14	88	59	23	67	28	69	67	79	1.89	− 1.8	7	4,095	sw.	34	w.	5	10	15	5	4.7	.....	.....
Lexington	989	75	102	29.01	30.06	− .01	72.5	+ 4.6	90	7	81	52	30	64	32	.....	.....	.....	4.37	+ 2.0	12	5,591	sw.	32	nw.	15	5	11	14	6.3	.....	.....
Louisville	525	111	132	29.49	30.07	+ .01	74.9	+ 5.0	92	14	84	56	30	66	32	67	65	79	4.66	+ 2.0	13	4,271	sw.	36	e.	3	9	12	9	5.4	.....	.....
Evansville	431	72	82	29.58	30.04	− .02	75.4	+ 5.7	92	18	84	57	22	66	26	68	66	81	3.25	+ 0.6	10	3,951	s.	30	n.	18	7	20	3	4.9	.....	.....

TABLE I.—*Climatological data for United States Weather Bureau stations, September, 1911*—Continued.

Districts and stations.	Elevation of instruments.			Pressure in inches.			Temperature of the air, in degrees Fahrenheit.										Mean wet thermometer.	Mean temperature of the dew point.	Mean relative humidity, per cent.	Precipitation, inches.			Wind.				Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Total snowfall.	Snow on ground at end of month.
	Barometer above sea level, feet.	Thermometer above ground.	Anemometer above ground.	Station, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean max. – mean min. +.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.				Total.	Departure from normal.	Days with 0.01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.						
***Ohio Valley and Tenn.*—Continued.**																															
Indianapolis	822	154	164	29.18	30.06	.00	69.9	+ 3.2	90	2	78	49	30	62	27		66	60	78	4.67	+ 1.6	14	5,892	s.	32	sw.	29	7	12	11	5.6	.....	.....
Cincinnati	628	152	160	29.39	30.06	– .01	72.0	+ 3.0	90	2	81	52	30	63	29		65	62	77	7.52	+ 5.2	12	4,082	so.	22	sw.	29	6	17	7	5.9	.....	.....
Columbus	824	173	222	29.20	30.07	.00	68.8	+ 2.9	88	8	78	47	30	60	26		62	59	77	5.98	+ 3.5	13	6,617	e.	40	w.	29	10	10	10	5.3	.....	.....
Dayton	899	181	216	29.11	30.05	.....	69.8	+ 2.4	88	2	79	48	30	61	27		63	60	76	4.19	.....	11	6,243	sw.	35	w.	29	8	12	10	5.8	.....	.....
Pittsburgh	842	353	410	29.16	30.06	– .02	68.0	+ 1.9	86	8	77	45	14	59	26		61	58	75	6.36	+ 3.9	13	6,604	nw.	44	nw.	29	10	13	7	5.0	.....	.....
Parkersburg	638	77	84	29.43	30.08	.00	70.4	+ 4.3	90	8	80	48	14	61	29		64	62	82	3.89	+ 1.2	14	2,955	sw.	26	nw.	29	6	11	13	6.1	.....	.....
Elkins	1,940	41	50	28.07	30.09	+ .01	66.7	+ 4.8	87	8	78	39	14	55	38		60	59	89	6.87	+ 4.0	15	1,992	n.	16	w.	29	8	14	8	5.4	.....	.....
Lower lake region.							**62.9**	**– 0.2**											**77**	**3.76**	**+ 0.9**								**5.0**		
Buffalo	767	178	206	29.23	30.05	– .01	62.2	– 0.7	82	18	70	41	28	55	27		57	54	79	3.81	+ 0.6	11	8,188	sw.	41	w.	2	11	11	8	4.8	.....	.....
Canton	448	10	71	29.59	30.06	.....	55.9	– 3.4	80	5	67	29	28	45	35		.....	.....	.....	4.50	+ 1.7	10	6,165	sw.	45	w	2	10	10	10	5.3	.....	.....
Oswego	335	76	91	29.68	30.05	– .01	59.8	– 2.9	82	2	67	39	14	52	28		55	52	78	3.03	+ 0.2	12	6,045	s.	30	ne.	28	16	4	10	4.5	.....	.....
Rochester	523	86	102	29.50	30.07	+ .01	61.4	– 0.5	84	2	70	37	14	53	32		55	51	75	3.56	+ 1.2	13	4,872	w.	29	w.	12	13	6	11	5.0	.....	.....
Syracuse	597	97	113	29.42	30.06	– .01	60.6	– 1.0	85	2	69	34	28	52	27		.....	.....	.....	2.76	– 0.1	12	7,272	s.	44	s.	15	13	9	8	4.8	.....	.....
Erie	714	92	102	29.29	30.05	– .01	64.2	+ 0.3	87	2	71	42	14	57	27		59	56	79	4.14	+ 0.6	10	7,016	s.	34	s.	14	8	12	10	5.2	.....	.....
Cleveland	762	190	201	29.22	30.06	.00	65.0	+ 0.7	88	2	71	46	14	59	23		60	57	76	4.67	+ 1.4	11	8,636	n.	45	w.	11	11	10	9	5.1	.....	.....
Sandusky	629	62	70	29.38	30.06	.00	66.5	+ 1.2	90	2	73	47	14	60	27		.....	.....	.....	3.53	+ 0.8	12	5,004	ne.	31	nw.	29	14	9	7	4.5	.....	.....
Toledo	628	208	246	29.39	30.07	+ .01	66.0	+ 1.9	89	2	74	48	28	58	25		60	57	76	3.26	+ 0.9	13	8,327	nw.	38	w.	29	12	9	9	4.5	.....	.....
Fort Wayne	856	113	124	.....	.....	.....	66.4	+ 0.9	89	2	76	48	30	57	30		61	58	79	3.30	.....	12	5,418	sw.	35	sw.	29	9	8	13	5.4	.....	.....
Detroit	730	218	258	29.28	30.06	.00	64.2	+ 1.1	89	2	72	44	28	56	28		58	54	75	4.32	+ 1.8	14	7,933	n.	42	s.	18	12	6	12	5.4	.....	.....
Upper lake region.							**58.9**	**– 0.2**											**81**	**3.96**	**+ 0.8**								**5.4**		
Alpena	609	13	92	29.41	30.07	+ .04	57.2	– 0.1	88	1	66	37	26	48	34		52	49	80	1.89	– 1.6	11	7,480	nw.	51	se.	28	7	14	9	5.8	.....	.....
Escanaba	612	48	82	29.39	30.05	+ .04	56.0	– 0.9	80	15	64	33	28	48	27		52	49	83	3.78	+ 0.2	13	7,020	s.	34	n.	27	10	9	11	5.5	.....	.....
Grand Haven	632	54	92	29.37	30.04	.00	60.4	– 0.7	84	17	69	40	28	52	32		56	53	82	5.88	+ 2.7	12	6,636	e.	39	n.	14	12	9	9	4.9	.....	.....
Grand Rapids	675	70	87	29.30	30.06	+ .01	62.4	+ 0.6	89	1	72	40	28	53	31		57	54	79	7.58	+ 4.5	11	3,769	se.	27	nw.	11	10	8	12	5.4	.....	.....
Lansing	863	11	62	29.12	30.06	.....	61.5	+ 0.2	89	1	73	38	28	50	35		56	53	83	5.05	+ 2.4	13	3,460	se.	20	nw.	11	11	8	11	5.2	.....	.....
Houghton	684	62	72	29.31	30.04	+ .04	54.4	– 1.7	82	22	62	32	28	46	32		.....	.....	.....	2.61	– 0.9	12	6,052	w.	34	n.	27	11	6	13	5.4	.....	.....
Marquette	734	77	116	29.26	30.07	+ .07	55.6	– 1.2	81	15	63	34	28	48	33		51	48	79	2.39	– 1.1	12	7,590	s.	42	s.	23	6	11	13	6.5	.....	.....
Port Huron	638	78	120	29.36	30.06	.00	61.4	+ 0.5	88	1	70	39	14	53	28		56	53	79	3.64	+ 1.0	12	6,462	ne.	36	nw.	11	11	8	11	5.3	.....	.....
Sault Ste. Marie	614	11	61	29.38	30.08	+ .06	53.5	– 0.8	78	1	62	29	28	45	35		49	47	84	1.83	– 1.6	14	5,248	se.	36	nw.	27	8	10	12	6.3	.....	.....
Chicago	823	140	310	29.18	30.06	+ .02	67.0	+ 2.4	86	2	73	51	30	61	24		61	58	78	4.03	+ 1.0	16	8,248	ne.	59	sw.	18	9	11	10	5.5	.....	.....
Milwaukee	681	122	138	29.31	30.04	+ .01	63.4	+ 1.9	86	16	70	45	26	56	27		58	56	81	4.31	+ 1.4	15	7,476	ne.	36	se.	6	11	8	11	5.5	.....	.....
Green Bay	617	49	86	29.37	30.03	+ .01	59.6	+ 0.5	88	1	68	38	26	51	29		54	51	79	5.16	+ 2.0	14	7,794	se.	40	n.	5	6	10	14	6.8	.....	.....
Duluth	1,133	11	47	28.81	30.04	+ .06	53.2	– 3.5	77	15	61	35	30	46	32		49	46	81	3.35	– 0.2	14	8,926	ne.	39	sw.	18	6	13	11	6.3	.....	.....
North Dakota.							**55.0**	**– 2.2**											**78**	**2.22**	**+ 0.8**								**5.5**		
Moorhead	940	8	57	29.00	30.02	+ .06	55.9	– 0.7	87	1	67	34	24	44	38		50	48	82	2.15	– 0.2	10	5,125	se.	26	nw.	14	11	7	12	5.2	.....	.....
Bismarck	1,674	4	57	28.24	30.02	+ .08	56.5	– 0.6	88	1	68	34	24	45	43		50	46	74	2.26	+ 1.1	11	6,862	e.	38	w.	14	14	4	12	5.3	.....	.....
Devils Lake	1,482	11	44	28.43	30.00	+ .06	53.4	– 2.2	82	1	64	33	27	43	33		47	42	75	2.22	+ 0.8	11	7,737	w.	39	w.	14	8	14	8	5.7	.....	.....
Williston	1,896	40	47	28.00	29.98	+ .05	54.3	– 5.2	83	3	65	30	25	43	36		47	43	73	2.25	+ 1.3	12	6,092	se.	41	w.	14	10	8	12	5.7	.....	.....
Upper Miss. Valley.							**67.1**	**+ 2.3**											**81**	**6.97**	**+ 3.4**								**6.1**		
Minneapolis	918	102	208	.....	.....	.....	59.2	.....	88	16	68	41	30	50	31		.....	.....	.....	5.83	– 2.2	12	8,074	s.	43	e.	6	7	7	16	6.4	.....	.....
St. Paul	940	203	212	29.11	30.01	+ .02	59.0	– 1.3	88	16	68	39	26	50	32		53	50	76	5.27	+ 1.8	13	6,172	se.	36	e.	6	7	12	11	6.1	.....	.....
La Crosse	714	11	48	29.27	30.04	+ .03	61.2	– 0.5	88	1	71	36	30	51	33		.....	.....	.....	5.00	+ 0.9	19	3,170	s.	25	sw.	17	6	9	15	6.5	.....	.....
Madison	974	70	78	29.01	30.04	+ .01	62.4	+ 1.3	88	1	71	43	30	54	30		57	54	80	5.85	+ 2.7	13	6,111	sw.	30	s.	14	9	7	14	6.0	.....	.....
Charles City	1,015	10	49	28.96	30.01	+ .02	62.0	+ 0.3	92	1	72	37	26	52	38		56	54	84	4.11	+ 1.3	12	4,541	se.	24	s.	22	5	9	16	6.6	.....	.....
Davenport	606	71	79	29.37	30.02	– .01	67.2	+ 2.5	95	1	77	45	30	58	34		61	58	81	5.13	+ 2.0	14	4,808	e.	31	se.	6	9	7	14	5.9	.....	.....
Des Moines	861	84	101	29.09	29.98	– .04	67.0	+ 2.0	97	1	77	46	19	57	40		60	56	74	7.68	+ 4.6	11	5,271	se.	38	n.	6	8	8	14	6.2	.....	.....
Dubuque	698	100	115	29.30	30.05	+ .02	64.0	+ 0.4	90	14	73	41	30	55	32		58	55	79	3.56	0.0	13	4,033	se.	28	se.	6	6	10	14	6.2	.....	.....
Keokuk	614	64	78	29.35	30.02	– .01	69.6	+ 3.2	94	2	78	51	30	61	28		64	62	84	7.67	+ 3.7	16	4,626	s.	36	nw.	6	10	6	14	6.1	.....	.....
Cairo	350	87	93	29.66	30.03	– .02	76.7	+ 6.5	93	18	86	58	22	68	24		69	67	82	5.15	+ 2.7	13	4,501	s.	33	ne.	7	7	13	10	5.5	.....	.....
La Salle	536	56	64	29.49	30.06	+ .02	67.2	+ 3.3	92	1	76	43	30	58	32		.....	.....	.....	7.42	+ 4.2	19	4,415	e.	35	se.	7	7	11	12	5.9	.....	.....
Peoria	609	11	45	29.38	30.05	+ .01	67.8	+ 3.5	95	2	78	44	30	58	39		62	60	85	12.30	+ 9.2	20	4,280	s.	24	sw.	14	5	11	14	6.4	.....	.....
Springfield, Ill	644	10	91	29.35	30.03	– .02	70.0	+ 3.6	92	14	78	51	30	62	27		65	63	84	10.68	+ 7.3	19	5,349	se.	48	nw.	6	9	6	15	6.2	.....	.....
Hannibal	534	74	109	29.46	30.02	– .01	71.5	+ 3.6	95	14	81	49	22	62	29		.....	.....	.....	11.64	+ 8.1	17	5,709	sw.	34	ne.	6	9	11	10	5.6	.....	.....
St. Louis	567	208	317	29.41	30.01	– .03	74.2	+ 4.2	95	14	83	56	22	66	24		68	66	80	7.09	+ 4.2	14	6,226	se.	39	nw.	15	9	13	8	5.2	.....	.....
Missouri Valley.							**69.0**	**+ 3.7**											**74**	**4.15**	**+ 1.4**								**5.1**		
Columbia, Mo	784	11	84	29.17	29.98	– .05	72.8	+ 5.0	94	6	83	50	22	63	30		.....	.....	.....	8.87	+ 6.0	12	4,626	s.	38	nw.	15	15	7	8	4.8	.....	.....
Kansas City	963	161	181	28.96	29.97	– .05	73.4	+ 5.9	96	6	82	53	21	65	31		66	62	75	6.17	+ 2.4	15	7,626	s.	38	sw.	6	13	5	12	5.1	.....	.....
St. Joseph	967	11	49	28.96	29.97	.....	72.4	.....	96	1	82	47	19	63	30		66	64	82	5.72	.....	14	4,806	se.	23	nw.	6	11	8	11	5.3	.....	.....
Springfield, Mo	1,324	98	104	28.64	30.02	– .01	74.2	+ 6.3	92	12	83	53	22	65	27		68	66	82	4.38	+ 0.6	10	6,126	s.	25	se.	30	15	11	4	3.8	.....	.....
Iola	984	11	50	28.96	29.98	– .03	75.5	+ 6.9	96	13	86	50	19	65	31		.....	.....	.....	6.01	+ 2.7	11	4,798	s.	22	s.	6	13	11	6	4.0	.....	.....
Topeka	983	85	101	.....	.....	.....	73.6	+ 5.3	99	14	84	49	19	63	30		.....	.....	.....	4.45	+ 0.9	13	6,577	s.	32	nw.	14	13	9	8	4.7	.....	.....
Lincoln	1,189	11	84	28.72	29.96	– .03	69.7	+ 4.5	97	1	80	43	19	59	35		62	58	75	4.84	+ 2.2	8	6,589	se.	32	nw.	6	11	8	11	5.6	.....	.....
Omaha	1,105	115	121	28.81	29.98	– .02	69.9	+ 4.1	97	1	79	45	21	60	30		61	57	70	2.55	– 0.5	8	5,241	s.	34	nw.	17	9	7	14	6.2	.....	.....
Valentine	2,598	47	54	27.29	29.98	+ .02	63.2	+ 0.9	90	1	75	38	19	52	40		55	49	68	2.17	+ 0.4	9	6,914	s.	36	e.	20	9	18	3	4.2	.....	.....
Sioux City	1,135	94	164	28.78	29.98	.00	65.6	+ 1.5	96	1	76	38	19	55	34		59	55	76	3.14	+ 0.7	10	7,699	s.	41	s.	22	9	14	7	5.3	.....	.....
Pierre	1,572	70	75	28.33	29.98	+ .03	63.3	+ 0.5	96	1	74	41	19	53	39		54	48	64	2.79	+ 1.7	10	6,891	se.	37	e.	5	10	12	8	5.2	.....	.....
Huron	1,306	56	67	29.62	30.01	+ .05	61.0	+ 1.4	93	1	73	34	19	49	40		54	49	74	2.10	+ 0.4	8	6,764	se.	39	nw.	17	6	14	10	5.7	.....	.....
Yankton	1,233	49	57	28.68	29.98	.00	65.5	+ 2.2	98	1	76	40	19	55	37		.....	.....	.....	2.28	– 0.2	8	5,107	ne.	30	sw.	22	2	20	8	6.5	.....	.....
Northern slope.							**56.6**	**– 0.8**											**64**	**1.95**	**+ 0.9**								**5.1**	.....	.....
Havre	2,505	11	44	27.36	29.99	+ .05	52.6	– 5.0	82	2	63	26	25	43	33		47	43	77	5.99	+ 5.0	10	5,208	e.	36	w.	15	17	4	9	4.8	4.8	.....
Miles City	2,371	26	48	27.46	30.00	+ .05	61.0	– 0.2	94	3	74	34	25	48	41		57	49	76	1.58	+ 0.7	7	4,110	ne.	30	sw.	17	17	9	4	3.9	.....	.....
Helena	4,110	8	56	25.81	30.00	+ .03	51.2	– 5.0	86	1	63	25	23	40	35		44	38	68	2.24	+ 1.2	7	4,321	sw.	40	sw.	15	13	7	10	5.3	1.2	.....
Kalispell	2,962	11	34	26.94	29.99	+ .03	51.0	– 2.9	86	2	62	26	25	40	37		45	41	72	2.75	+ 1.4	11	3,030	w.	23	sw.	16	9	13	8	5.2	T.	.....
Rapid City	3,234	46	50	26.62	29.99	+ .03	60.9	+ 1.8	89	1	72	37	18	50	40		51	42	58	0.92	– 0.3	7	5,348	w.	28	n.	28	13	7	10	4.8	.....	.....
Cheyenne	6,088	56	64	24.07	29.93	– .03	60.7	+ 3.5	88	12	74	33	19	48	36		47	37	50	1.35	+ 0.4	7	7,051	s.	40	s.	7	5	15	10	6.1	T.	.....
Lander	5,372	26	36	24.67	29.97	+ .01	56.2	+ 1.0	84	1	73	27	18	39	47		44	32	49	0.22	– 0.8	4	2,747	sw.	24	w.	13	13	9	8	4.4	.....	.....
Sheridan	3,790	9	47	26.11	29.99	.....	56.4	– 0.3	89	12	72	29	19	41	49		47	40	65	1.54	.....	9	4,087	nw.	37	w.	13	12	6	12	5.5	.....	.....
Yellowstone Park	6,200	11	48	23.91	29.98	+ .01	49.0	– 4.4	78	2	62	25	18	36	38		39	31	57	1.11	+ 0.1	7	5,418	sw.	40	sw.	15	7	14	9	5.6	0.4	.....
North Platte	2,821	11	51	27.09	29.98	+ .01	66.6	+ 3.4	98	1	80	38	19	53	48		57	53	73	1.37	– 0.1	11	4,815	se.	26	n.	9	8	15	7	5.2	.....	.....

TABLE I.—*Climatological data for United States Weather Bureau stations, September, 1911*—Continued.

Districts and stations.	Elevation of instruments.			Pressure in inches.			Temperature of the air, in degrees Fahrenheit.									Mean wet thermometer.	Mean temperature of the dew point.	Mean relative humidity, per cent.	Precipitation, inches.			Wind.				Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Total snowfall.	Snow on ground at end of month.
	Barometer above sea level, feet.	Thermometer above ground.	Anemometer above ground.	Station, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean max. + mean min. ÷ 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.				Total.	Departure from normal.	Days with 0.01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.						
Middle slope.							78.0	+ 5.4										62	2.78	+ 0.8									4.2		
Denver	5,291	129	136	24.77	29.94	− .02	66.2	+ 3.5	94	12	81	41	18	52	38	50	38	45	0.75	− 0.1	8	5,522	s.	38	nw.	1	12	14	4	4.3	T.	.....
Pueblo	4,685	80	86	25.32	29.92	− .04	68.2	+ 3.8	94	12	83	41	21	54	46	53	43	48	0.32	− 0.3	6	4,702	nw.	33	ne.	17	13	13	4	4.2	.....	.....
Concordia	1,398	42	50	28.51	29.96	− .03	72.6	+ 4.5	103	13	84	42	19	61	39	63	59	71	3.27	+ 0.7	9	4,914	s.	27	w.	30	6	15	9	5.9	.....	.....
Dodge City	2,509	11	51	27.38	29.92	− .06	74.9	+ 6.7	100	13	88	46	19	62	35	62	57	65	0.37	− 1.4	5	8,157	s.	35	ne.	18	16	11	3	3.9	.....	.....
Wichita	1,364	139	158	28.57	29.97	− .03	76.1	+ 6.3	97	14	87	51	19	66	32	67	63	73	10.56	+ 7.4	8	9,145	s.	47	w.	6	16	9	5	4.2	.....	.....
Oklahoma	1,214	10	47	28.71	29.96	− .03	80.0	+ 7.9	98	13	91	56	19	69	30	69	65	71	1.38	− 1.4	4	10,474	s.	35	s.	17	21	5	4	2.9	.....	.....
Southern slope.							79.2	+ 6.4										64	1.07	− 1.6									3.0		
Abilene	1,738	10	52	28.20	29.96	.00	81.0	+ 6.8	95	17	91	61	19	71	29	69	64	65	1.38	− 1.8	2	6,753	s.	37	w.	20	24	4	2	1.9	.....	.....
Amarillo	3,676	10	49	26.30	29.95	− .01	75.2	+ 7.5	95	5	88	54	19	63	36	62	56	62	0.83	− 1.5	4	7,076	s.	33	sw.	15	16	13	1	3.8	.....	.....
Del Rio	944	8	57	28.96	29.92	− .02	86.8	+ 7.9	103	5	98	72	26	75	28	.....	.....	.....	0.36	− 2.6	1	6,071	se.	25	nw.	3	21	9	0	2.4	.....	.....
Roswell	3,578	9	57	26.39	29.95	+ .03	73.6	+ 3.3	95	16	89	51	21	58	40	61	56	66	1.71	− 0.6	5	2,804	s.	23	se.	16	14	12	4	3.9	.....	.....
Southern plateau.							72.3	+ 1.8										52	1.48	+ 0.4									3.4		
El Paso	3,762	110	133	26.19	29.86	− .02	77.5	+ 4.8	94	16	88	61	21	67	27	62	54	50	1.00	− 0.4	7	6,211	e.	41	w.	17	14	15	1	3.8	.....	.....
Santa Fe	7,013	8	56	23.37	29.93	.00	62.8	+ 2.2	80	1	74	43	21	51	29	51	44	57	1.17	− 0.5	8	4,890	sw.	35	n.	3	12	16	2	4.1	.....	.....
Flagstaff	6,907	8	57	23.44	29.91	+ .02	57.8	+ 2.3	79	1	71	35	24	45	40	49	44	72	4.41	+ 2.3	14	4,949	sw.	32	sw.	5	11	9	10	5.3	.....	.....
Phoenix	1,108	50	56	28.68	29.81	.00	83.3	+ 1.9	106	1	96	64	7	71	36	67	59	49	1.16	+ 0.2	6	1,375	e.	38	w.	30	14	13	3	3.9	.....	.....
Yuma	141	9	58	29.64	29.78	.00	85.0	+ 1.1	109	1	101	56	7	69	45	68	60	50	0.23	+ 0.1	2	3,549	w.	28	se.	30	26	3	1	1.2	.....	.....
Independence	3,910	11	42	25.92	29.85	− .01	67.3	− 1.8	96	1	81	40	27	54	39	49	31	32	0.61	+ 0.5	2	4,863	s.	36	se.	25	22	6	2	2.3	.....	.....
Middle Plateau.							61.0	− 0.6										45	1.11	+ 0.1									3.8		
Reno	4,532	56	63	25.46	29.92	− .03	57.4	− 2.3	85	1	74	31	18	41	45	44	32	45	T.	− 0.3	0	4,748	w.	44	w.	25	24	5	1	1.9	.....	.....
Tonopah	6,090	12	20	24.08	29.89	.....	60.7	.....	84	1	71	39	26	50	27	45	27	31	0.27	− 0.2	1	6,146	se.	37	se.	25	19	7	4	2.7	.....	.....
Winnemucca	4,344	18	56	25.60	29.96	+ .03	56.0	− 4.5	89	1	75	26	27	37	50	42	29	43	T.	− 0.3	0	3,991	sw.	30	sw.	25	18	7	5	3.1	.....	.....
Modena	5,479	10	43	24.63	29.90	− .02	60.0	− 0.2	89	1	76	34	19	44	45	45	29	37	1.76	− 0.6	6	8,769	sw.	48	sw.	5	14	8	8	4.0	.....	.....
Salt Lake City	4,360	147	189	25.59	29.90	− .05	64.7	− 0.4	92	2	76	42	18	54	33	51	40	44	1.63	+ 0.8	6	6,224	se.	35	sw.	5	15	7	8	5.0	.....	.....
Durango	6,546	18	56	23.77	29.98	+ .05	60.4	+ 2.2	84	11	74	35	21	47	41	50	44	68	2.82	+ 1.0	14	3,419	nw.	24	nw.	26	6	19	5	5.3	.....	.....
Grand Junction	4,608	43	51	25.40	29.93	− .02	67.7	+ 1.3	89	11	80	47	18	56	33	53	42	47	1.30	+ 0.4	11	4,136	se.	34	sw.	26	12	8	10	4.9	.....	.....
Northern Plateau.							58.6	− 2.6										49	0.61	− 0.2									4.7		
Baker	3,466	48	53	26.44	30.01	+ .02	53.0	− 4.0	87	1	67	29	18	39	39	44	34	53	0.31	− 0.4	4	4,053	s.	24	sw.	4	18	8	4	3.7	.....	.....
Boise	2,739	78	86	27.13	29.96	− .01	60.2	− 1.7	93	1	73	35	17	47	37	47	34	41	0.04	− 0.4	3	3,320	nw.	26	w.	4	14	11	5	4.1	.....	.....
Lewiston	757	10	51	29.18	29.98	.00	61.2	− 2.3	95	1	74	34	25	48	38	.....	.....	.....	0.52	− 0.1	5	3,963	e.	42	w.	12	9	16	5	4.9	.....	.....
Pocatello	4,477	46	54	25.47	29.94	− .02	59.1	− 1.6	90	2	73	31	18	45	39	45	31	40	0.60	− 0.3	7	6,207	se.	32	sw.	5	12	11	7	4.7	.....	.....
Spokane	1,929	101	110	27.95	29.99	+ .01	56.6	− 2.2	92	2	68	31	25	45	36	47	39	57	0.75	− 0.3	9	4,268	sw.	30	sw.	15	6	9	15	6.5	.....	.....
Walla Walla	1,045	107	115	28.93	30.00	.00	61.3	− 4.1	93	1	71	42	25	52	27	51	41	53	1.45	+ 0.5	8	5,148	s.	36	sw.	12	13	13	4	4.4	.....	.....
North Pacific coast region.							55.3	− 1.6										82	3.55	+ 1.0									6.6		
North Head	211	11	56	29.84	30.06	+ .03	54.8	− 1.4	64	25	58	47	30	52	13	53	51	89	2.15	+ 0.3	16	8,121	nw.	56	se.	14	6	9	15	6.5	.....	.....
Port Crescent	259	8	53	29.78	30.06	+ .04	50.3	− 2.2	66	11	58	32	26	43	25	.....	.....	.....	2.59	+ 0.3	12	3,072	s.	16	nw.	2	3	14	13	6.7	.....	.....
Seattle	125	185	224	29.92	30.05	+ .04	57.1	− 0.8	75	1	63	42	24	51	18	52	49	80	3.27	+ 1.3	10	5,143	s.	36	n.	10	3	10	17	7.2	.....	.....
Tacoma	213	113	120	29.82	30.05	+ .03	55.8	− 1.8	74	2	63	37	23	49	24	.....	.....	.....	4.70	+ 2.2	14	3,749	sw.	21	sw.	20	4	6	20	7.6	.....	.....
Tatoosh Island	86	7	57	29.93	30.03	+ .02	52.6	− 0.4	61	1	56	43	24	49	12	51	50	91	4.14	− 2.0	14	7,979	s.	46	s.	14	6	8	16	5.8	.....	.....
Portland, Oreg.	153	68	106	29.88	30.04	+ .01	58.4	− 2.2	82	1	66	43	24	51	24	53	50	76	5.19	+ 3.4	16	3,641	nw.	37	w.	11	3	8	19	7.5	.....	.....
Roseburg	510	9	57	29.50	30.05	+ .03	57.8	− 2.7	84	1	69	37	24	47	36	52	47	74	2.84	+ 1.8	14	2,050	nw.	22	sw.	11	9	15	6	4.9	.....	.....
Middle Pacific coast region.							61.8	− 2.6										66	0.15	− 0.4									3.4		
Eureka	80	73	89	30.00	30.07	+ .06	55.0	+ 0.1	66	15	61	44	23	49	16	52	50	87	0.29	− 0.8	9	4,063	n.	36	n.	17	6	15	9	5.5	.....	.....
Mount Tamalpais	2,375	11	18	27.54	29.99	+ .05	59.9	.....	82	20	68	43	23	52	24	49	40	57	T.	− 0.6	0	10,524	nw.	76	nw.	3	22	5	3	2.2	.....	.....
Point Reyes Light	490	7	18	29.44	29.96	.....	55.2	.....	71	18	59	47	20	52	19	.....	.....	.....	T.	.....	0	15,420	nw.	72	nw.	2	13	10	7	4.6	.....	.....
Red Bluff	332	50	56	29.57	29.92	− .01	67.6	− 6.3	91	20	81	48	26	55	34	54	40	43	0.65	− 0.2	2	3,826	se.	30	nw.	17	22	6	2	2.1	.....	.....
Sacramento	69	106	117	29.87	29.94	+ .05	65.6	− 3.5	92	20	78	48	27	53	42	57	52	65	T.	− 0.4	0	5,092	s.	29	sw.	30	25	4	1	1.5	.....	.....
San Francisco	155	200	204	29.82	29.99	+ .05	60.0	+ 0.7	82	18	67	49	20	53	30	53	50	78	T.	− 0.3	0	6,121	w.	33	w.	20	14	11	5	4.2	.....	.....
San Jose	141	12	110	29.84	29.99	.....	60.9	− 3.8	86	7	76	42	28	46	44	.....	.....	.....	0.00	− 0.3	0	3,504	nw.	22	nw.	4	25	3	2	3.3	.....	.....
Southeast Farallon	30	9	17	29.98	30.01	.....	55.6	.....	63	10	58	48	20	53	10	.....	.....	.....	0.11	− 0.2	2	9,680	nw.	50	nw.	3	17	7	6	3.5	.....	.....
South Pacific coast region.							67.2	− 0.8										66	0.34	+ 0.1									3.0		
Fresno	330	62	70	29.57	29.92	+ .05	69.8	− 4.5	99	1	85	48	26	55	39	55	42	43	0.01	− 0.3	1	3,862	w.	19	w.	4	24	4	2	2.1	.....	.....
Los Angeles	338	159	191	29.56	29.92	+ .04	68.2	+ 1.7	86	18	79	52	15	58	30	59	54	70	1.23	+ 1.2	2	3,671	sw.	19	w.	28	14	13	3	3.8	.....	.....
San Diego	87	94	102	29.83	29.92	+ .03	66.2	− 0.7	76	21	72	54	9	60	19	62	59	82	0.10	0.0	2	4,565	nw.	23	nw.	24	25	2	3	2.5	.....	.....
San Luis Obispo	201	47	54	29.76	29.98	+ .05	61.6	+ 0.1	86	13	73	43	28	50	33	54	49	70	0.02	− 0.4	1	3,753	nw.	22	w.	2	20	3	7	3.4	.....	.....
West Indies.																															
Grand Turk	11	6	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Juan	82	48	90	29.87	29.95	+ .01	81.0	.....	88	17	81	73	28	75	15	.....	.....	.....	5.83	− 1.0	20	6,466	e.	28	se.	24	11	14	5	4.8	.....	.....
Panama.																															
Colon	17	6	71	29.81	29.82	.....	80.4	.....	90	12	85	72	25	76	11	76	75	86	11.62	.....	24	6,373	ne.	28	ne.	25	2	19	9	6.3	.....	.....
Culebra	404	6	65	29.40	29.82	.....	79.9	.....	91	27	87	70	22	73	19	75	74	92	5.97	.....	20	4,389	nw.	29	ne.	30	0	19	11	7.5	.....	.....
Ancon	92	6	69	29.71	29.81	.....	80.8	.....	93	13	89	68	22	73	21	76	75	91	6.03	.....	14	4,712	nw.	25	ne.	22	0	20	10	6.7	.....	.....
Alhajuela	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9.29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bohio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gatun	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, for the more important storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 inch in 1 hour, during September, 1911, at all stations furnished with self-registering gages.*

Stations.	Date.	Total duration.		Total amount of precipitation.	Excessive rate.		Amount before excessive rate began.	Depths of precipitation (in inches) during periods of time indicated.													
		From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Abilene, Tex.	3			1.15														0.41			
Albany, N. Y.	8			0.75														0.47			
Alpena, Mich.	11			0.33														0.20			
Amarillo, Tex.	15			0.41														0.38			
Anniston, Ala.	11	2.27 p. m.	3.20 p. m.	0.72	2.40 p. m.	2.58 p. m.	0.01	0.21	0.49	0.66	0.70										
Asheville, N. C.	21	1.35 p. m.	2.40 p. m.	0.58	1.53 p. m.	2.12 p. m.	0.05	0.10	0.28	0.44	0.52										
Atlanta, Ga.	25	10.39 a. m.	11.40 a. m.	0.54	10.45 a. m.	11.10 a. m.	0.01	0.11	0.20	0.35	0.43	0.50									
Atlantic City, N.J.	22			1.17														0.39			
Augusta, Ga.	6			0.61														0.35			
Baker, Oreg.	4			0.16														0.11			
Baltimore, Md.	15			0.79														0.35			
Bentonville, Ark.	18–19	4.25 p. m.	3.30 a. m.	1.72	5.07 p. m.	5.30 p. m.	0.07	0.25	0.36	0.39	0.53	0.61									
Binghamton, N.Y.	9	D. N. a. m.	11.30 a. m.	0.81	5.00 a. m.	5.18 a. m.	0.05	0.35	0.45	0.49											
Birmingham, Ala.	14	3.09 p. m.	4.40 p. m.	1.55	3.35 p. m.	4.07 p. m.	0.03	0.12	0.28	0.58	0.88	1.12	1.39	1.49							
Bismarck, N. Dak.	4			0.40														0.31			
Boise, Idaho	27			0.02														0.02			
Boston, Mass.	25	5.40 p. m.	7.55 p. m.	1.05	5.50 p. m.	6.20 p. m.	T.	0.20	0.41	0.62	0.74	0.92	1.01								
Buffalo, N. Y.	12			0.55														0.52			
Block Island, R. I.	22			0.72														0.30			
Burlington, Vt.	16	4.07 p. m.	4.55 p. m.	0.44	4.31 p. m.	4.38 p. m.	0.11	0.21	0.33												
Cairo, Ill.	7	4.20 a. m.	8.05 a. m.	0.93	5.08 a. m.	5.57 a. m.	0.07	0.12	0.21	0.32	0.33	0.36	0.42	0.48	0.57	0.65	0.71				
Do.	12	2.59 p. m.	3.47 p. m.	1.26	3.08 p. m.	3.37 p. m.	0.03	0.07	0.15	0.46	0.76	1.06	1.22								
Canton, N. Y.	5			1.28														0.62			
Charles City, Iowa	6	12.30 p. m.	1.35 p. m.	0.61	12.38 p. m.	12.50 p. m.	0.01	0.22	0.42												
Do.	17	6.25 p. m.	9.00 p. m.	1.50	7.28 p. m.	7.48 p. m.	0.10	0.35	0.66	0.90	1.18	1.23									
Charleston, S. C.	2	D. N. a. m.	10.50 a. m.	2.97	3.07 a. m.	3.54 a. m.	0.01	0.08	0.27	0.54	0.85	1.00	1.17	1.35	1.50	1.59	1.63				
Do.	5	9.42 a. m.	10.35 a. m.	0.61	10.02 a. m.	10.18 a. m.	0.01	0.27	0.37	0.56	0.59										
Do.	6–7	11.10 p. m.	D. N. a. m.	0.71	11.16 p. m.	11.46 p. m.	0.01	0.11	0.26	0.35	0.42	0.57	0.70								
Charlotte, N. C.	4	12.19 p. m.	4.55 p. m.	1.15	12.55 p. m.	1.40 p. m.	0.05	0.11	0.27	0.34	0.55	0.68	0.76	0.84	0.89	0.97					
Do.	5–6	6.35 p. m.	D. N. a. m.	2.12	7.40 p. m.	8.43 p. m.	0.14	0.11	0.21	0.31	0.40	0.45	0.48	0.53	0.60	0.73	0.83	0.99	1.12		
Chattanooga, Tenn.	23	12.45 p. m.	2.45 p. m.	1.63	1.52 p. m.	2.24 p. m.	0.01	0.11	0.44	0.75	1.18	1.44	1.56	1.61							
Cheyenne, Wyo.	30			1.45														0.40			
Chicago, Ill.	18	1.28 a. m.	4.00 a. m.	0.99	1.31 a. m.	2.01 a. m.	0.01	0.35	0.53	0.60	0.64	0.70	0.75								
Cincinnati, Ohio.	5	7.31 a. m.	12.25 p. m.	1.89	8.52 a. m.	9.36 a. m.	0.39	0.08	0.31	0.44	0.53	0.72	0.79	0.91	1.15	1.28					
Do.	10–11	4.20 p. m.	D. N. a. m.	2.87	12.29 a. m.	12.49 a. m.	1.48	0.25	0.38	0.60	0.75										
Cleveland, Ohio.	14–15	6.20 p. m.	3.50 a. m.	1.90	2.48 a. m.	3.06 a. m.	1.30	0.19	0.32	0.57	0.60										
Columbia, Mo.	6–7	11.11 p. m.	D. N. a. m.	2.58	11.14 p. m.	12.14 a. m.	0.01	0.08	0.11	0.16	0.20	0.27	0.33	0.54	0.70	0.94	1.08	1.27			
					1.36 a. m.	2.21 a. m.	1.45	0.07	0.15	0.25	0.44	0.57	0.63	0.77	0.90	0.97					
Do.	15	4.31 p. m.	9.15 p. m.	1.44	4.43 p. m.	5.11 p. m.	0.01	0.19	0.47	0.62	0.84	1.06	1.14								
Do.	17	D. N. a. m.	D. N. a. m.	1.62	1.06 a. m.	1.25 a. m.	0.12	0.39	0.82	0.88	1.00										
Columbia, S. C.	5	11.52 a. m.	12.45 p. m.	0.68	12.13 p. m.	12.37 p. m.	0.02	0.15	0.32	0.50	0.62	0.66									
Do.	9	3.04 p. m.	4.10 p. m.	0.76	3.06 p. m.	3.41 p. m.	0.01	0.12	0.28	0.32	0.37	0.51	0.66	0.72							
Do.	21	12.55 p. m.	3.30 p. m.	0.67	12.58 p. m.	1.18 p. m.	0.01	0.10	0.32	0.46	0.52										
Do.	21	8.04 p. m.	9.32 p. m.	1.25	8.06 p. m.	8.25 p. m.	0.01	0.16	0.42	0.79	1.00										
Do.	23	5.45 p. m.	8.50 a. m.	0.86	6.10 a. m.	6.33 a. m.	0.03	0.14	0.26	0.45											
Columbus, Ohio.	8	5.35 p. m.	7.05 p. m.	0.73	5.55 p. m.	6.15 p. m.	0.02	0.19	0.40	0.58	0.67										
Do.	15	7.12 a. m.	11.00 a. m.	1.09	8.20 a. m.	8.52 a. m.	0.01	0.10	0.39	0.51	0.72	0.90	1.02	1.06							
Do.	18	9.38 a. m.	10.57 a. m.	0.64	9.38 a. m.	10.02 a. m.	0.00	0.05	0.13	0.25	0.45	0.56									
Concord, N. H.	6			0.73														0.32			
Concordia, Kans.	30	3.12 p. m.	9.48 p. m.	0.76	6.39 p. m.	6.48 p. m.	0.12	0.27	0.49												
Corpus Christi, Tex.	2	12.18 p. m.	12.56 p. m.	0.40	12.25 p. m.	12.35 p. m.	0.02	0.08	0.36												
Davenport, Iowa.	10	7.53 a. m.	9.55 a. m.	1.12	8.28 a. m.	8.56 a. m.	0.04	0.09	0.14	0.30	0.51	0.85	0.96								
Do.	28	6.05 p. m.	8.25 p. m.	1.24	8.00 p. m.	8.19 p. m.	0.09	0.40	0.61	0.89	1.14										
Del Rio, Tex.	3			0.36														0.35			
Denver, Colo.	2			0.23														0.22			
Des Moines, Iowa.	30–1	7.25 p. m.	D. N. a. m.	1.14	8.48 p. m.	9.12 p. m.	0.12	0.13	0.25	0.37	0.41	0.50									
Detroit, Mich.	14	4.02 p. m.	6.32 p. m.	1.24	5.16 p. m.	6.00 p. m.	0.23	0.08	0.12	0.17	0.26	0.40	0.57	0.80	0.94	0.99					
Devils Lake, N. Dak.	4–5			0.63														*			
Dodge City, Kans.	30			0.22														0.20			
Dubuque, Iowa.	17–18	10.51 p. m.	1.35 a. m.	0.94	10.53 p. m.	11.09 p. m.	0.01	0.27	0.41	0.69	0.76										
Do.	30–1	2.17 p. m.	7.17 a. m.	1.73	11.30 p. m.	11.56 p. m.	0.97	0.09	0.19	0.21	0.36	0.46	0.49								
Duluth, Minn.	4			1.60														0.51			
Durango, Colo.	29			0.78														0.47			
Eastport, Me.	6			0.73														0.30			
Elkins, W. Va.	15	D. N. a. m.	11.05 a. m.	1.43	7.11 a. m.	8.13 a. m.	0.11	0.31	0.41	0.54	0.58	0.59	0.59	0.65	0.74	0.80	0.85	1.00	1.06		
El Paso, Tex.	17			0.29														0.18			
Erie, Pa.	14–15	7.15 p. m.	8.10 a. m.	1.51	5.19 a. m.	5.49 a. m.	0.56	0.14	0.22	0.34	0.47	0.61	0.73								
Escanaba, Mich.	5	1.40 p. m.	7.30 p. m.	0.82	2.04 p. m.	2.27 p. m.	0.05	0.20	0.34	0.51	0.62										
Eureka, Cal.	9			0.09														0.08			
Evansville, Ind.	15	2.35 p. m.	4.05 p. m.	1.34	3.18 p. m.	3.43 p. m.	0.23	0.33	0.65	0.75	1.02	1.07									
Flagstaff, Ariz.	29	12.05 a. m.	D. N. a. m.	0.83	12.06 a. m.	12.14 a. m.	0.01		0.81	0.82	0.83										
Fort Smith, Ark.	18	9.02 p. m.	11.20 p. m.	0.52	9.48 p. m.	10.00 p. m.	0.01	0.22	0.40	0.44											
Do.	30	2.05 p. m.	2.53 p. m.	0.73	2.18 p. m.	2.38 p. m.	0.02	0.34	0.53	0.56	0.63										
Fort Wayne, Ind.	15	D. N. a. m.	D. N. a. m.	0.53	1.08 a. m.	1.38 a. m.	T.	0.13	0.20	0.32	0.42	0.51	0.53								
Do.	18	4.50 a. m.	8.20 a. m.	0.88	5.09 a. m.	6.09 a. m.	0.02	0.18	0.32	0.45	0.55	0.65	0.75	0.77	0.78	0.79	0.81				
Fort Worth, Tex.	3	6.01 p. m.	6.25 p. m.	0.38	6.15 p. m.	6.22 p. m.	0.01	0.28	0.33												
Fresno, Cal.	29			0.01														0.01			
Galveston, Tex.	24	D. N. a. m.	7.25 a. m.	2.06	6.19 a. m.	6.58 a. m.	0.02	0.08	0.28	0.66	1.18	1.58	1.71	1.89	2.00						
Grand Haven, Mich.	11	6.40 p. m.	8.05 p. m.	0.57	7.10 p. m.	7.28 p. m.	0.03	0.17	0.31	0.37	0.44										
Do.	14	12.32 p. m.	1.50 p. m.	0.67	12.42 p. m.	1.16 p. m.	0.02	0.07	0.15	0.29	0.40	0.47	0.55	0.62							
Do.	27	D. N. a. m.	6.15 a. m.	1.77	2.25 a. m.	2.55 a. m.	0.07	0.15	0.39	0.46	0.53	0.62	0.75								
Grand Junction, Colo.	12			0.30														0.18			
Grand Rapids, Mich.	14	1.07 p. m.	2.29 p. m.	1.03	1.09 p. m.	2.12 p. m.	0.01	0.11	0.28	0.49	0.58	0.66	0.74	0.77	0.79	0.79	0.79	0.96	1.01		
Do.	27	12.30 a. m.	6.38 a. m.	1.80	2.53 a. m.	3.20 a. m.	0.20	0.21	0.31	0.39	0.51	0.64									
Green Bay, Wis.	28	2.35 p. m.	8.10 p. m.	1.61	5.11 p. m.	5.46 p. m.	0.57	0.08	0.16	0.24	0.36	0.54	0.66	0.73							
Hannibal, Mo.	6–7	8.55 p. m.	D. N. a. m.	1.33	9.25 p. m.	9.54 p. m.	0.07	0.10	0.34	0.42	0.50	0.57	0.71								
Do.	25	D. N. a. m.	7.20 a. m.	1.88	2.28 a. m.	3.02 a. m.	0.15	0.12	0.32	0.52	0.57	0.76	0.89	0.96							
Harrisburg, Pa.	9			0.99														0.61			
Hartford, Conn.	29			0.63														0.30			
Hatteras, N. C.	1	1.20 a. m.	4.55 a. m.	1.35	3.54 a. m.	4.12 a. m.	0.59	0.31	0.42	0.54											
Do.	16	8.05 p. m.	10.10 p. m.	1.14	8.10 p. m.	8.36 p. m.	0.01	0.29	0.45	0.62	0.79	0.89									
Havre, Mont.	4			2.52														0.24			
Helena, Mont.	3	1.33 p. m.	8.45 p. m.	1.49	3.44 p. m.	4.29 p. m.	0.06	0.08	0.19	0.25	0.39	0.63	0.74	0.83	0.90	0.96					
Houghton, Mich.	23			0.69														0.42			

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, for the more important storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 inch in 1 hour, during September, 1911, at all stations furnished with self-registering gages*—Continued.

Stations.	Date.	Total duration.		Total amount of precipitation.	Excessive rate.		Amount before excessive rate began.	Depths of precipitation (in inches) during periods of time indicated.													
		From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Houston, Tex.	22	2.05 p. m.	3.34 p. m.	1.47	2.06 p. m.	3.00 p. m.	0.01	0.28	0.52	0.61	0.82	0.92	1.00	1.10	1.20	1.31	1.37	1.45	.....	.....	.....
Huron, S. Dak.	6	3.35 a. m.	7.20 a. m.	1.06	3.55 a. m.	4.05 a. m.	0.05	0.21	0.38	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Independence, Cal	29	.....	.....	0.31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
Indianapolis, Ind.	27	1.28 p. m.	2.25 p. m.	0.75	1.43 p. m.	2.16 p. m.	0.01	0.24	0.30	0.36	0.46	0.55	0.67	0.74	.....	.....	.....	.....	.....	.....	.....
Iola, Kans.	15–16	8.46 p. m.	7.55 a. m.	2.50	9.14 p. m.	9.39 p. m.	0.13	0.15	0.25	0.35	0.67	0.74	.....	.....	.....	.....	.....	.....	.....	.....	.....
					10.57 p. m.	11.27 p. m.	0.93	0.27	0.54	0.81	0.94	1.05	1.10	.....	.....	.....	.....	.....	.....	.....	.....
Jacksonville, Fla.	8	.....	.....	0.46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.24	.....	.....	.....
Kalispell, Mont.	3	.....	.....	1.26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.29	.....	.....	.....
Kansas City, Mo.	10	5.30 a. m.	11.25 a. m.	2.52	5.40 a. m.	6.11 a. m.	0.04	0.25	0.57	0.67	0.82	0.96	1.02	1.06	.....	.....	.....	.....	.....	.....	.....
Keokuk, Iowa	6	7.37 p. m.	10.35 p. m.	0.95	7.52 p. m.	8.22 p. m.	0.07	0.31	0.44	0.52	0.61	0.64	0.73	.....	.....	.....	.....	.....	.....	.....	.....
Do.	24	7.40 p. m.	11.40 p. m.	2.19	8.00 p. m.	8.50 p. m.	0.10	0.08	0.24	0.38	0.54	0.80	0.91	1.12	1.33	1.45	1.64	.....	.....	.....	.....
Key West, Fla.	25	D. N. a. m.	D. N. a. m.	0.54	1.03 a. m.	1.13 a. m.	0.08	0.29	0.42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Knoxville, Tenn.	4–5	.....	.....	0.98	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....	.....
La Crosse, Wis.	17	6.15 p. m.	9.40 p. m.	1.31	8.25 p. m.	8.50 p. m.	0.06	0.44	0.76	0.88	0.99	1.08	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lander, Wyo.	30	.....	.....	0.17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.05	.....	.....	.....
Lansing, Mich.	28–29	6.00 p. m.	D. N. a. m.	1.46	10.36 p. m.	11.06 p. m.	0.34	0.05	0.15	0.27	0.40	0.68	0.79	.....	.....	.....	.....	.....	.....	.....	.....
La Salle, Ill.	6–7	7.20 p. m.	D. N. a. m.	1.90	8.28 p. m.	9.22 p. m.	0.06	0.05	0.09	0.15	0.29	0.43	0.59	0.91	1.08	1.11	1.19	1.24	.....	.....	.....
Do.	10	9.30 a. m.	12.55 p. m.	1.55	10.58 a. m.	11.44 a. m.	0.17	0.18	0.50	0.57	0.63	0.66	0.72	0.98	1.15	1.25	1.26	.....	.....	.....	.....
Do.	28	7.45 p. m.	D. N. p. m.	1.34	9.24 p. m.	10.04 p. m.	0.32	0.18	0.31	0.33	0.34	0.34	0.52	0.71	1.00	1.01	.....	.....	.....	.....	.....
Lewiston, Idaho.	5	.....	.....	0.28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.10	.....	.....	.....
Lexington, Ky.	15	3.24 p. m.	4.55 p. m.	0.70	3.25 p. m.	4.05 p. m.	0.01	0.13	.....	.....	0.41	0.46	0.57	0.61	0.64	.....	.....	.....	.....	.....	.....
Do.	19	1.25 p. m.	1.59 p. m.	0.46	1.30 p. m.	1.45 p. m.	0.02	0.16	0.33	0.43	0.44	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lincoln, Nebr.	2–3	7.28 p. m.	4.30 a. m.	1.35	1.36 a. m.	2.06 a. m.	0.66	0.09	0.23	0.35	0.40	0.41	0.50	.....	.....	.....	.....	.....	.....	.....	.....
Do.	10	1.00 a. m.	3.15 a. m.	1.53	1.54 a. m.	2.34 a. m.	0.03	0.10	0.38	0.76	0.92	1.01	1.18	1.28	1.36	.....	.....	.....	.....	.....	.....
Do.	24	4.25 a. m.	6.30 a. m.	0.59	4.51 a. m.	4.59 a. m.	0.01	0.39	0.45	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Little Rock, Ark.	7	4.47 p. m.	5.40 p. m.	0.53	1.58 p. m.	5.15 p. m.	0.01	0.07	0.25	0.44	0.51	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	11	12.35 p. m.	1.15 p. m.	1.21	12.42 p. m.	1.09 p. m.	0.02	0.11	0.43	0.83	1.00	1.17	1.19	.....	.....	.....	.....	.....	.....	.....	.....
Do.	21	D. N. a. m.	8.00 a. m.	1.79	2.09 a. m.	3.44 a. m.	0.01	0.22	0.33	0.46	0.54	0.56	0.58	0.59	0.62	0.71	0.87	0.98	1.14	1.33	.....
Los Angeles, Cal.	28	.....	.....	0.74	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.26	.....	.....	.....
Louisville, Ky.	7	2.00 p. m.	3.05 p. m.	0.39	2.01 p. m.	2.15 p. m.	0.01	0.06	0.24	0.37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lynchburg, Va.	11	.....	.....	0.35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.17	.....	.....	.....
Macon, Ga.	23	6.37 a. m.	7.30 a. m.	0.94	6.39 a. m.	7.02 a. m.	0.01	0.27	0.53	0.68	0.85	0.89	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	23	11.25 a. m.	12.20 p. m.	1.16	11.34 a. m.	12.08 p. m.	0.01	0.28	0.46	0.60	0.80	0.95	1.09	1.13	.....	.....	.....	.....	.....	.....	.....
Madison, Wis.	10	7.30 a. m.	9.40 a. m.	0.84	7.46 a. m.	8.01 a. m.	0.03	0.05	0.28	0.39	0.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	17–18	6.30 p. m.	D. N. a. m.	1.52	9.23 p. m.	10.29 p. m.	0.04	0.07	0.16	0.21	0.26	0.30	0.37	0.59	0.87	1.01	1.04	1.07	1.20	.....	.....
Do.	27	D. N. a. m.	5.50 a. m.	1.24	3.24 a. m.	4.31 a. m.	0.02	0.19	0.38	0.53	0.74	0.81	0.84	0.95	0.96	1.01	1.01	1.06	1.19	.....	.....
Marquette, Mich.	5	.....	.....	0.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.31	.....	.....	.....
Memphis, Tenn.	20	.....	.....	0.06	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.06	.....	.....	.....
Meridian, Miss.	3	6.47 a. m.	10.00 a. m.	2.17	7.33 a. m.	9.23 a. m.	0.07	0.05	0.09	0.18	0.28	0.36	0.40	0.50	0.69	0.88	1.00	1.20	1.57	1.86	2.03
Miami, Fla.	18	2.45 p. m.	3.40 p. m.	0.77	2.58 p. m.	3.28 p. m.	0.01	0.18	0.29	0.38	0.46	0.62	0.72	.....	.....	.....	.....	.....	.....	.....	.....
Milwaukee, Wis.	11	7.20 p. m.	8.30 p. m.	0.45	7.22 p. m.	7.35 p. m.	0.01	0.14	0.29	0.37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	17–18	8.40 p. m.	D. N. a. m.	0.92	11.36 p. m.	12.14 a. m.	0.07	0.08	0.08	0.08	0.17	0.32	0.62	0.80	0.85	.....	.....	.....	.....	.....	.....
Minneapolis, Minn	4	11.25 a. m.	2.50 p. m.	1.45	1.05 p. m.	1.40 p. m.	0.21	0.15	0.51	0.81	0.90	1.06	1.16	1.22	.....	.....	.....	.....	.....	.....	.....
Do.	11	D. N. a. m.	7.45 a. m.	0.89	4.16 a. m.	4.31 a. m.	0.05	0.07	0.31	0.47	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mobile, Ala.	5	8.40 a. m.	10.20 a. m.	1.69	8.50 a. m.	9.45 a. m.	0.01	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.67	.....	.....	.....
Modena, Utah.	29	.....	.....	1.19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.32	.....	.....	.....
Montgomery, Ala.	20	2.10 p. m.	2.35 p. m.	0.37	2.16 p. m.	2.23 p. m.	0.01	0.25	0.34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Moorhead, Minn.	6	.....	.....	0.98	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.25	.....	.....	.....
Mount Tamalpais, Cal.	22	.....	.....	T.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	.....	.....
Mount Weather, Va.	15	6.00 a. m.	11.35 a. m.	0.74	7.21 a. m.	7.33 a. m.	0.15	0.17	0.35	0.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nantucket, Mass.	6	10.05 a. m.	12.50 p. m.	0.78	11.55 a. m.	12.05 p. m.	0.39	0.13	0.38	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nashville, Tenn.	5	11.37 a. m.	1.35 p. m.	0.96	11.44 a. m.	12.04 p. m.	0.03	0.11	0.52	0.77	0.85	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Haven, Conn.	26	.....	.....	0.49	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.33	.....	.....	.....
New Orleans, La.	5	11.55 a. m.	2.53 p. m.	1.23	12.37 p. m.	12.55 p. m.	0.01	0.34	0.71	1.02	1.10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	15	11.40 a. m.	12.21 p. m.	0.74	11.40 a. m.	12.07 p. m.	0.00	0.09	0.21	0.35	0.51	0.67	0.74	.....	.....	.....	.....	.....	.....	.....	.....
Do.	21	2.04 p. m.	4.15 p. m.	1.22	3.03 p. m.	3.24 p. m.	0.03	0.29	0.55	0.84	1.02	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New York, N. Y.	29	.....	.....	0.51	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.21	.....	.....	.....
Norfolk, Va.	22	.....	.....	0.25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.25	.....	.....	.....
Northfield, Vt.	21–22	.....	.....	0.31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.23	.....	.....	.....
North Head, Wash	14	.....	.....	0.56	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.20	.....	.....	.....
North Platte, Nebr	9	7.37 p. m.	8.30 p. m.	0.59	7.41 p. m.	8.01 p. m.	0.01	0.08	0.26	0.37	0.43	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oklahoma, Okla.	7	.....	.....	0.77	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.33	.....	.....	.....
Omaha, Nebr.	30	12.45 p. m.	11.50 p. m.	1.80	5.14 p. m.	5.26 p. m.	0.92	0.21	0.54	0.58	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oswego, N. Y.	6	.....	.....	0.83	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.77	.....	.....	.....
Palestine, Tex.	29	.....	.....	0.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.40	.....	.....	.....
Parkersburg, W. Va.	16	.....	.....	0.78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.39	.....	.....	.....
Pensacola, Fla.	2	9.45 a. m.	11.55 a. m.	0.90	9.57 a. m.	10.22 a. m.	0.01	0.30	0.58	0.70	0.74	0.80	.....	.....	.....	.....	.....	.....	.....	.....	.....
Peoria, Ill.	6–7	7.52 p. m.	12.30 a. m.	2.24	7.52 p. m.	8.40 p. m.	0.00	0.15	0.52	0.86	1.10	1.22	1.26	1.30	1.37	1.43	1.51	.....	.....	.....	.....
Do.	10	9.23 a. m.	12.40 p. m.	3.37	9.50 a. m.	11.26 a. m.	0.02	0.14	0.28	0.36	0.45	0.54	0.72	0.95	1.13	1.23	1.28	1.47	2.36	3.13	.....
Do.	24–25	7.30 p. m.	3.00 a. m.	1.69	9.19 p. m.	9.41 p. m.	0.29	0.11	0.27	0.37	0.46	0.49	.....	.....	.....	.....	.....	.....	.....	.....	.....
Philadelphia, Pa.	11	6.05 a. m.	9.25 a. m.	0.72	6.34 a. m.	6.51 a. m.	0.02	0.08	0.30	0.39	0.43	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Phoenix, Ariz.	30	.....	.....	0.26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.21	.....	.....	.....
Pierre, S. Dak.	6	.....	.....	1.18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.46	.....	.....	.....
Pittsburgh, Pa.	8–9	10.26 p. m.	9.04 a. m.	1.80	1.09 a. m.	1.24 a. m.	0.14	0.26	0.47	0.56	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	14–15	10.10 p. m.	11.20 a. m.	2.34	2.53 a. m.	4.05 a. m.	0.28	0.12	0.23	0.30	0.31	0.37	0.44	0.48	0.53	0.66	0.72	1.06	1.35	.....	.....
Pocatello, Idaho.	13	.....	.....	0.18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.14	.....	.....	.....
Point Reyes Light, Cal.	25	.....	.....	T.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	.....	.....
Port Huron, Mich	14	2.35 p. m.	9.00 p. m.	1.22	7.16 p. m.	8.06 p. m.	0.55	0.07	0.22	0.38	0.46	0.48	0.57	0.64	0.68	.....	.....	.....	.....	.....	.....
Portland, Me.	25	.....	.....	0.31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.27	.....	.....	.....
Portland, Oreg.	5	.....	.....	1.24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.31	.....	.....	.....
Providence, R. I.	29	.....	.....	0.61	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.35	.....	.....	.....
Pueblo, Colo.	3	.....	.....	0.14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.14	.....	.....	.....
Raleigh, N. C.	6	2.51 p. m.	3.17 p. m.	0.60	2.55 p. m.	3.11 p. m.	0.01	0.14	0.35	0.55	0.59	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rapid City, S. Dak.	5	.....	.....	0.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.34	.....	.....	.....
Red Bluff, Cal.	25	.....	.....	0.61	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.33	.....	.....	.....
Reno, Nev.	25	.....	.....	T.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	.....	.....
Richmond, Va.	21	6.15 p. m.	7.30 p. m.	0.53	6.30 p. m.	6.44 p. m.	0.01	0.19	0.41	0.48	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rochester, N. Y.	5	1.50 p. m.	11.45 p. m.	2.12	9.22 p. m.	10.02 p. m.	0.70	0.11	0.20	0.29	0.41	0.63	0.76	0.80	0.99	.....	.....	.....	.....	.....	.....
Roseburg, Oreg.	3	.....	.....	0.21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.20	.....	.....	.....
Roswell, N. Mex.	30	.....	.....	0.86	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.40	.....	.....	.....
Sacramento, Cal.	25	.....	.....	T.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T.	.....	.....	.....
St. Joseph, Mo.	11	2.15 a. m.	3.50 a. m.	0.74	3.20 a. m.	3.43 a. m.	0.02	0.16	0.26	0.48	0.67	0.71	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Louis, Mo.	4–5	6.01 p. m.	6.25 a. m.	3.05	12.23 a. m.	1.32 a. m.	1.21	0.10	0.25	0.50	0.62	0.78	0.84	0.89	0.97	1.06	1.18	1.29	1.42	.....	.....
St. Paul, Minn.	11	4.15 a. m.	5.35 a. m.	0.53	4.24 a. m.	4.44 a. m.	0.02	0.15	0.33	0.42	0.47	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	28	9.50 a. m.	1.28 p. m.	1.24	10.22 a. m.	10.37 a. m.	0.04	0.16	0.36	0.41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, for the more important storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 inch in 1 hour, during September, 1911, at all stations furnished with self-registering gages*—Continued.

Stations.	Date.	Total duration. From—	Total duration. To—	Total amount of precipitation.	Excessive rate. Began—	Excessive rate. Ended—	Amount before excessive rate began.	Depths of precipitation (in inches) during periods of time indicated. 5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min	80 min	100 min.	120 min.
Salt Lake City, Utah	23			0.32														0.17			
San Antonio, Tex.	30			0.11														0.11			
San Diego, Cal.	30			0.09														0.06			
Sandusky, Ohio	14–15	9.50 p. m.	D.N.a.m.	1.63	10.54 p. m.	11.55 p. m.	0.04	0.34	0.46	0.51	0.54	0.62	0.70	0.76	0.86	1.16	1.19	1.31			
San Francisco, Cal.	25			T.														T.			
San Jose, Cal.	‡																				
San Luis Obispo, Cal.	21			0.02														0.02			
Santa Fe, N. Mex.	3			0.33														0.22			
Sault Ste. Marie, Mich.	5			0.59														0.34			
Savannah, Ga.	17	4.22 p. m.	4.45 p. m.	0.61	4.24 p. m.	4.34 p. m.	0.01	0.40	0.54												
Do.	21	7.06 p. m.	10.25 p. m.	1.06	7.12 p. m.	8.02 p. m.							0.43	0.55	0.66	0.71	0.77				
Scranton, Pa.	26			0.45														0.38			
Seattle, Wash.	8			0.97														0.31			
Sheridan, Wyo.	13			0.34														0.32			
Shreveport, La.	30	1.55 p. m.	2.15 p. m.	0.48	2.00 p. m.	2.11 p. m.	0.01	0.36	0.45	0.47											
Sioux City, Iowa.	6	7.40 a. m.	9.15 a. m.	0.79	8.21 a. m.	8.46 a. m.	0.02	0.08	0.16	0.42	0.60	0.65									
Southeast Faralion, Cal.	26			0.10														0.10			
Spokane, Wash.	5			0.47														0.15			
Springfield, Ill.	6–7	10.00 p. m.	D.N.a.m.	0.96	10.04 p. m.	10.25 p. m.	0.01	0.06	0.21	0.37	0.50	0.53									
Do.	28–29	D.N.p.m.	D.N.a.m.	1.31	11.28 p. m.	12.11 a. m.	0.05	0.12	0.30	0.53	0.69	0.84	0.97	1.08	1.23	1.24					
Springfield, Mo.	20			0.69														0.46			
Syracuse, N. Y.	7–8			1.46														0.75			
Tacoma, Wash.	8			0.74														0.22			
Tampa, Fla.	5	2.25 p. m.	4.10 p. m.	0.69	2.42 p. m.	2.57 p. m.	0.03	0.20	0.46	0.64											
Do.	8	3.05 p. m.	4.30 p. m.	0.90	3.14 p. m.	3.44 p. m.	0.05	0.09	0.20	0.41	0.60	0.72	0.78								
Do.	24	5.05 p. m.	8.15 p. m.	0.78	5.11 p. m.	5.51 p. m.	0.01	0.08	0.29	0.41	0.60	0.71									
Do.	26	1.54 p. m.	6.20 p. m.	2.18	1.58 p. m.	3.37 p. m.	0.01	0.19	0.38	0.44	0.44	0.45	0.50	0.64	1.04	1.33	1.47	1.52	1.67	1.88	
Tatoosh Island, Wash.	15			0.88														0.32			
Taylor, Tex.	30			0.08														0.07			
Thomasville, Tex.	16	12.55 p. m.	1.46 p. m.	0.72	1.12 p. m.	1.37 p. m.	0.07	0.13	0.22	0.31	0.42	0.63									
Toledo, Ohio	14–15	7.05 p. m.	D.N.a.m.	1.08	10.06 p. m.	10.26 p. m.	0.01	0.14	0.33	0.59	0.75										
Tonopah, Nev.	29			0.27														0.10			
Topeka, Kans.	14			0.73														0.68			
Valentine, Nebr.	6	12.19 a. m.	12.44 a. m.	0.65	12.19 a. m.	12.34 a. m.	0.00	0.20	0.40	0.55											
Vicksburg, Miss.	2	12.12 p. m.	7.55 p. m.	2.16	1.48 p. m.	2.08 p. m.	0.12	0.19	0.34	0.49	0.55										
Do.					3.08 p. m.	3.38 p. m.	0.76	0.06	0.30	0.53	0.78	0.96	1.08								
Walla Walla, Wash	4			0.28														0.20			
Washington, D.C.	15			1.09														0.58			
Wichita, Kans.	6	4.30 p. m.	7.50 p. m.	0.83	5.12 p. m.	5.59 p. m.	0.03	0.09	0.21	0.36	0.37	0.38	0.39	0.50	0.56	0.69	0.73				
					10.06 p. m.	10.43 p. m.	0.06	0.22	0.38	0.55	0.66	0.81	0.98	1.04	1.09						
					11.37 p. m.	12.27 a. m.	1.34	0.08	0.22	0.34	0.74	1.17	1.25	1.32	1.39	1.43	1.58				
Do.	6–7	9.25 p. m.	6.30 a. m.	7.16	12.27 a. m.	1.17 a. m.		1.75	1.83	1.98	2.09	2.13	2.19	2.26	2.36	2.37	2.56				
					1.17 a. m.	2.07 a. m.		2.95	3.10	3.33	3.43	3.57	3.73	3.79	3.86	3.91	3.96				
					2.07 a. m.	2.57 a. m.		4.04	4.18	4.39	4.73	4.87	4.93	4.99	5.02	5.08	5.24				
Do.	30	5.35 p. m.	6.25 p. m.	0.94	5.37 p. m.	6.10 p. m.	0.01	0.14	0.38	0.49	0.63	0.83	0.89	0.93							
Williston, N. Dak.	13			0.58														0.44			
Wilmington, N. C.	11	4.20 p. m.	5.50 p. m.	1.71	5.04 p. m.	5.43 p. m.	0.02	0.31	0.67	0.95	1.06	1.20	1.50	1.60	1.69						
Do.	24	10.50 a. m.	12.18 p. m.	0.72	11.22 a. m.	11.37 a. m.	0.21	0.26	0.38	0.47											
Winnemucca, Nev	5			T.														T.			
Wytheville, Va.	21	4.24 p. m.	7.10 p. m.	0.74	5.10 p. m.	5.40 p. m.	0.03	0.03	0.05	0.18	0.29	0.45	0.60								
Yankton, S. Dak.	6	6.25 a. m.	8.10 a. m.	0.81	7.10 a. m.	7.45 a. m.	0.06	0.10	0.22	0.24	0.41	0.58	0.66	0.74							
Yellowstone Park, Wyo.	5			0.75														0.24			

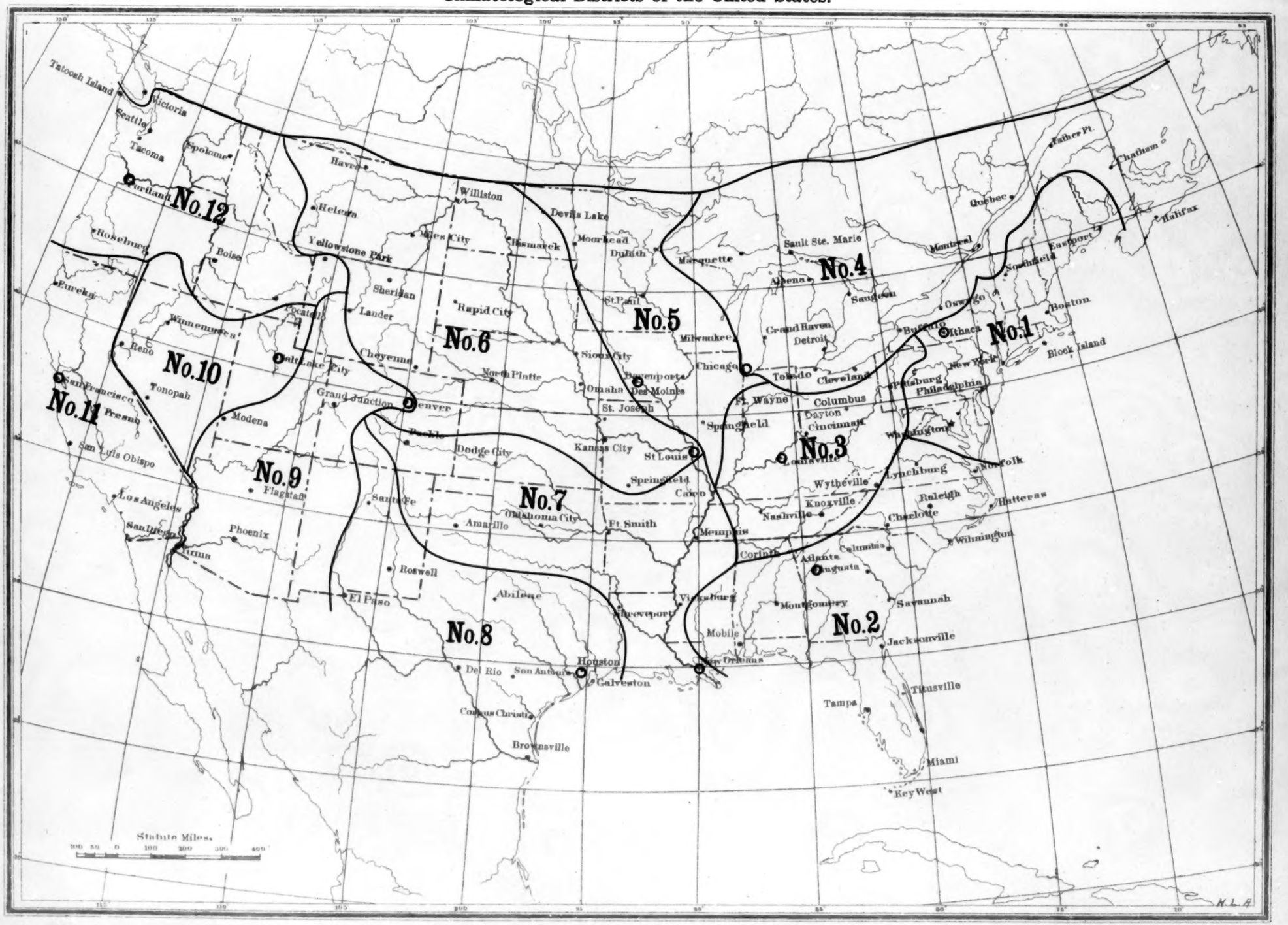
* Self-register not working.

‡ No precipitation occurred during month.

TABLE III.—*Data furnished by the Canadian Meteorological Service, September, 1911.*

Stations.	Pressure in inches. Station, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Temperature of the air, in degrees Fahrenheit. Mean max. + mean min. ÷ 2.	Departure from normal.	Mean maximum.	Mean minimum.	Highest.	Lowest.	Total precipitation.	Departure from normal.	Total snowfall.
St. Johns, N. F.	29.77	29.91	− .06	54.7	+ 0.7	61.3	48.2	74	36	11.42	+7.71	....
Sydney, C. B. I.	29.98	30.02	+ .01	55.9	− 0.6	63.8	48.0	74	35	7.44	+4.16	....
Halifax, N. S.	29.92	30.02	− .02	56.8	− 0.8	64.8	48.8	76	31	6.87	+3.16	....
Grand Manan, N. B.	29.97	30.02	− .01	57.3	+ 1.2	64.2	50.4	84	36	5.53	+2.36	....
Yarmouth, N. S.	29.98	30.05	.00	54.9	− 1.2	61.7	48.1	75	33	5.39	+1.94	....
Charlottetown, P. E. I.	29.96	30.00	− .01	55.8	− 1.5	62.3	49.4	75	34	6.23	+2.83	....
Chatham, N. B.	30.01	30.03	+ .03	54.4	− 1.0	63.7	45.0	76	39	3.09	+0.38	T.
Father Point, Que.	29.96	29.98	.00	48.4	− 2.0	55.9	40.8	68	25	2.31	−0.82	....
Quebec, Que.	29.70	30.02	+ .01	52.6	− 2.5	60.7	44.5	72	30	4.53	+0.86	....
Montreal, Que.	29.83	30.03	− .01	56.6	− 1.8	63.7	49.5	74	34	4.27	+0.97	T.
Stonecliffe, Ont.	29.42	30.03	.00	53.2	− 2.5	65.2	41.2	80	25	2.60	−0.68	....
Ottawa, Ont.	29.79	30.11	+ .07	55.8	− 1.6	65.7	45.9	85	30	3.19	+0.50	....
Kingston, Ont.	29.76	30.07	+ .03	58.7	− 1.3	66.8	50.6	75	30	2.84	+0.04	....
Toronto, Ont.	29.67	30.04	− .02	60.5	+ 1.5	69.8	51.2	87	34	2.57	−0.68	....
White River, Ont.	28.70	30.02	+ .04	47.5	− 2.8	58.7	36.2	72	14	2.34	−0.43	0.3
Port Stanley, Ont.	29.42	30.06	.00	60.2	+ 0.7	69.6	50.7	77	36	3.13	+0.40	....
Southampton, Ont.	29.36	.....	.....	57.3	− 0.2	66.2	48.4	87	31	2.44	−0.50	....
Parry Sound, Ont.	29.37	30.05	+ .02	56.6	+ 0.6	67.1	46.2	80	28	1.52	−2.15	....
Port Arthur, Ont.	29.32	30.03	+ .05	50.4	− 1.8	59.8	41.1	75	24	2.91	−0.57	....
Winnipeg, Man.	29.17	30.01	+ .07	52.4	− 0.1	63.1	41.6	76	29	2.43	+0.40	....
Minnedosa, Man.	28.18	30.00	+ .06	48.8	− 1.7	60.3	37.3	76	20	2.77	+1.41	....
Qu'Appelle, Sask.	27.70	29.94	+ .02	48.9	− 2.2	59.6	38.1	80	26	1.25	−0.08	3.0
Medicine Hat, Alberta	27.66	29.94	+ .02	53.5	− 1.5	65.8	41.2	84	28	1.75	+0.57	3.0
Swift Current, Sask.	27.43	30.00	+ .08	50.7	− 2.4	60.7	40.6	81	27	0.96	−0.26	....
Calgary, Alberta.	26.43	29.97	+ .05	47.4	− 2.4	58.5	36.3	74	21	0.89	−0.47	5.0
Banff, Alberta.	25.42	30.02	+ .09	44.8	− 1.0	55.4	34.1	72	19	1.14	−0.53	3.2
Edmonton, Alberta.	27.68	29.97	+ .07	50.1	+ 0.8	62.4	37.8	77	20	0.98	−0.35	T.
Prince Albert, Sask.	28.43	29.99	+ .09	48.0	− 0.4	59.6	36.3	73	24	1.77	+0.49	....
Battleford, Sask.	28.23	29.96	+ .06	49.6	− 2.2	61.1	38.2	76	23	1.29	+0.04	....
Kamloops, B. C.	28.66	29.92	− .05	56.0	− 1.4	67.4	44.7	88	28	0.88	+0.03	....
Victoria, B. C.	29.92	30.01	.00	55.5	+ 0.7	62.5	48.5	73	38	2.25	+0.09	....
Barkerville, B. C.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dawson, Yukon	28.83	.....	.....	43.3	.....	55.8	30.7	77	12	0.86	.....	1.8
Hamilton, Bermuda	29.95	30.11	+ .04	77.2	− 0.2	82.9	71.5	87	65	2.94	−3.57	....

Climatological Districts of the United States.



106 Climatological Sections in the United States.

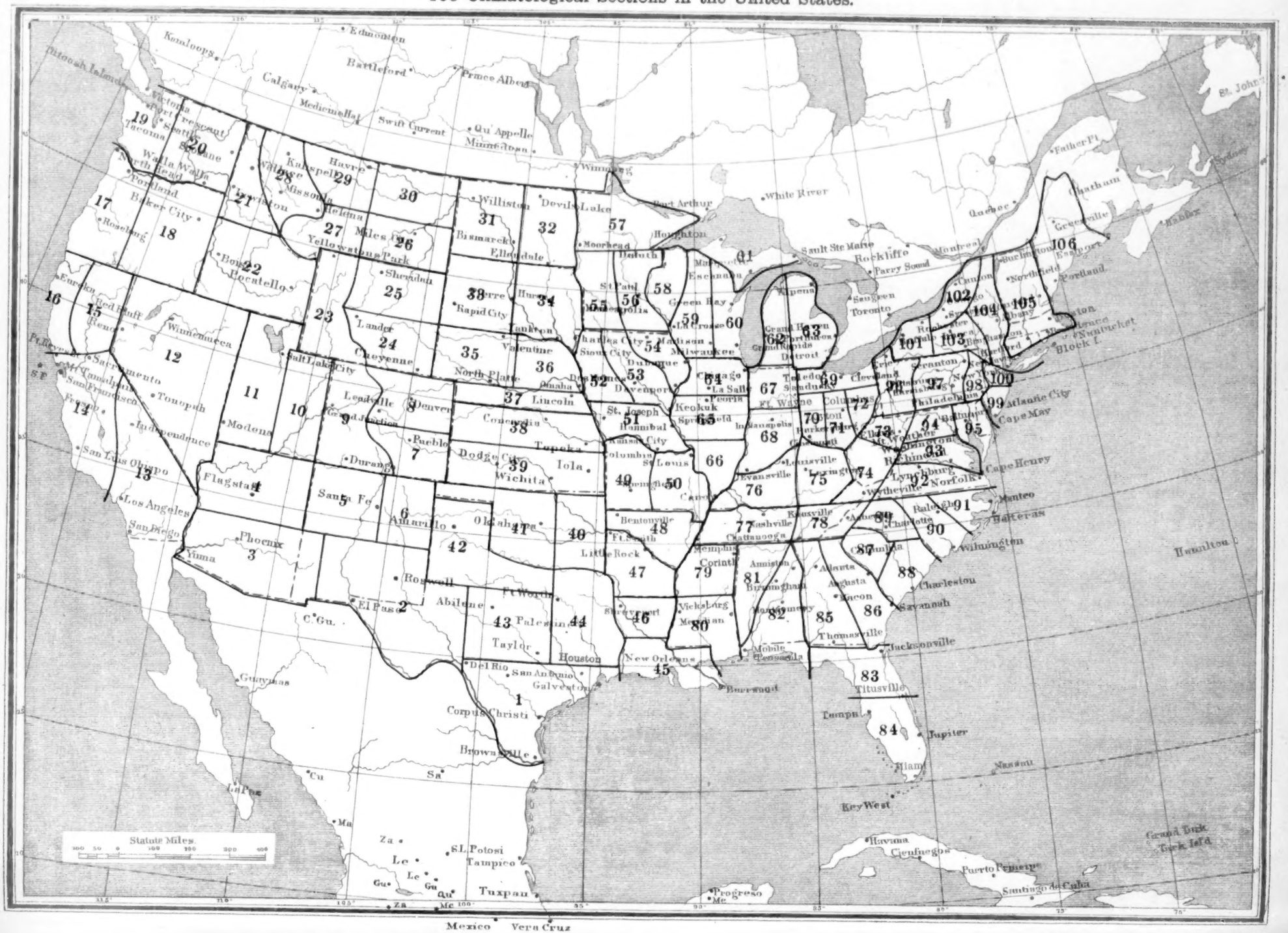


Chart I. Hydrographs of Several Principal Rivers, September, 1911.

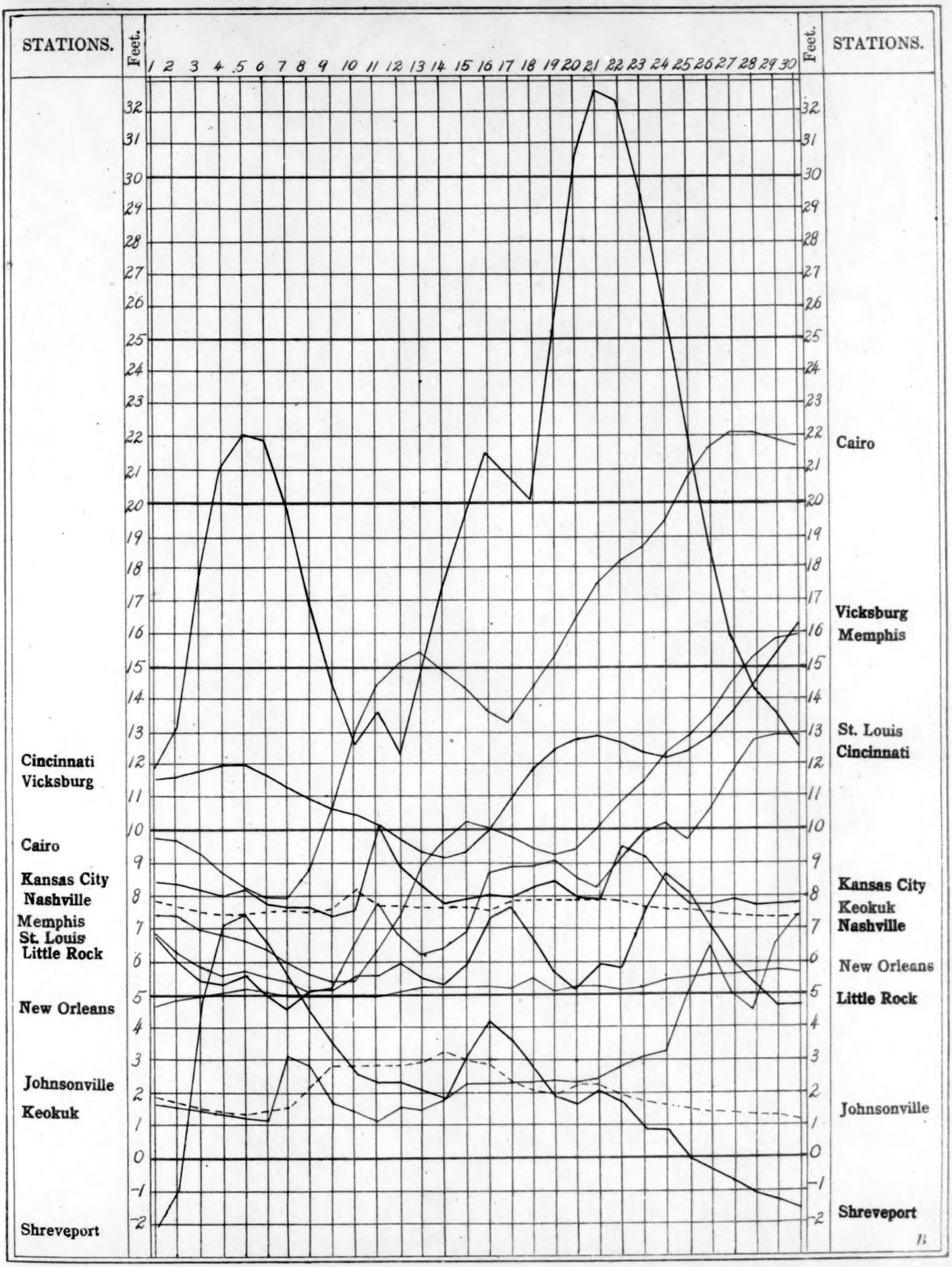


Chart II. Tracks of Centers of High Areas, September, 1911.

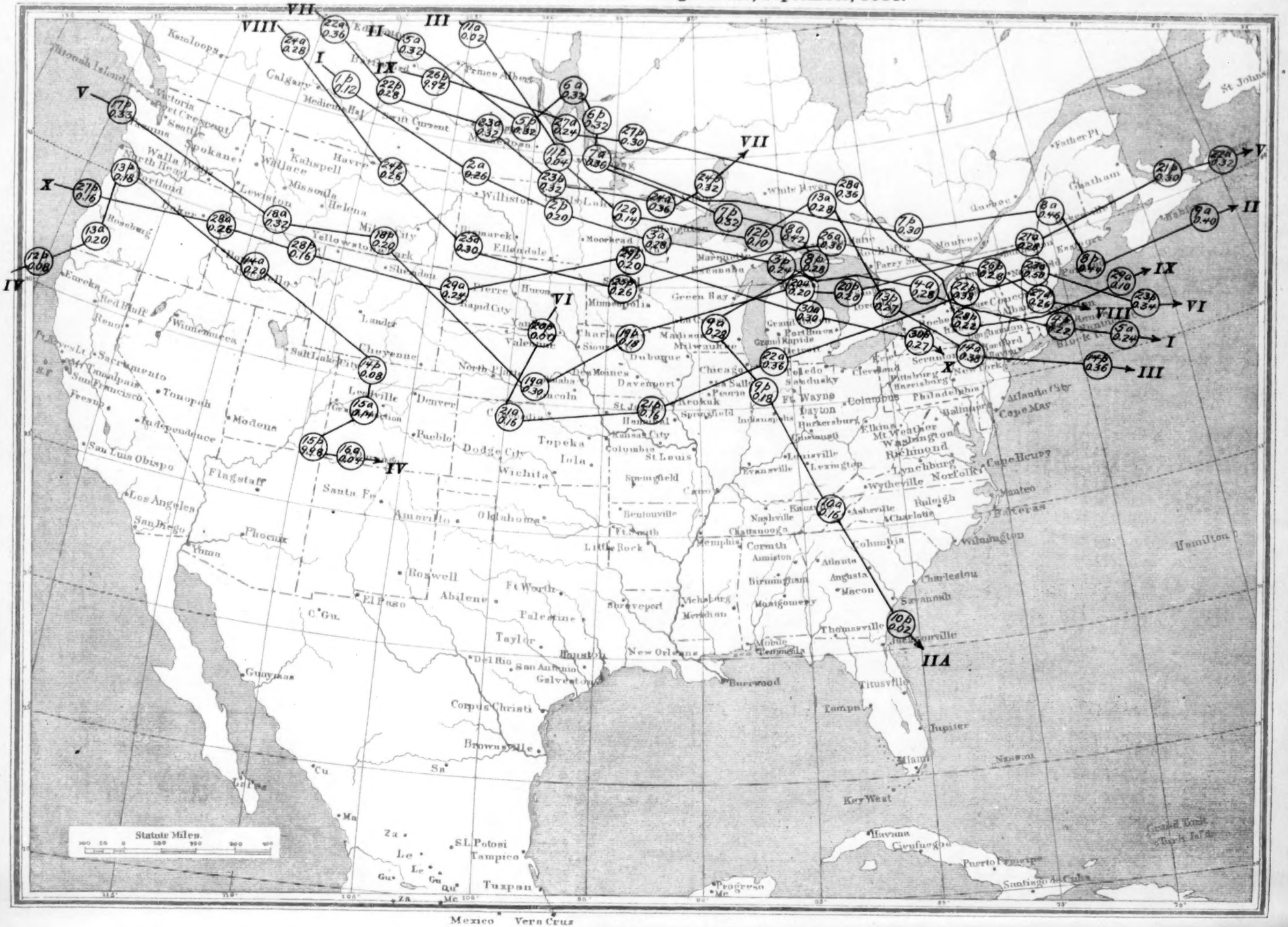


Chart III. Tracks of Centers of Low Areas, September, 1911.

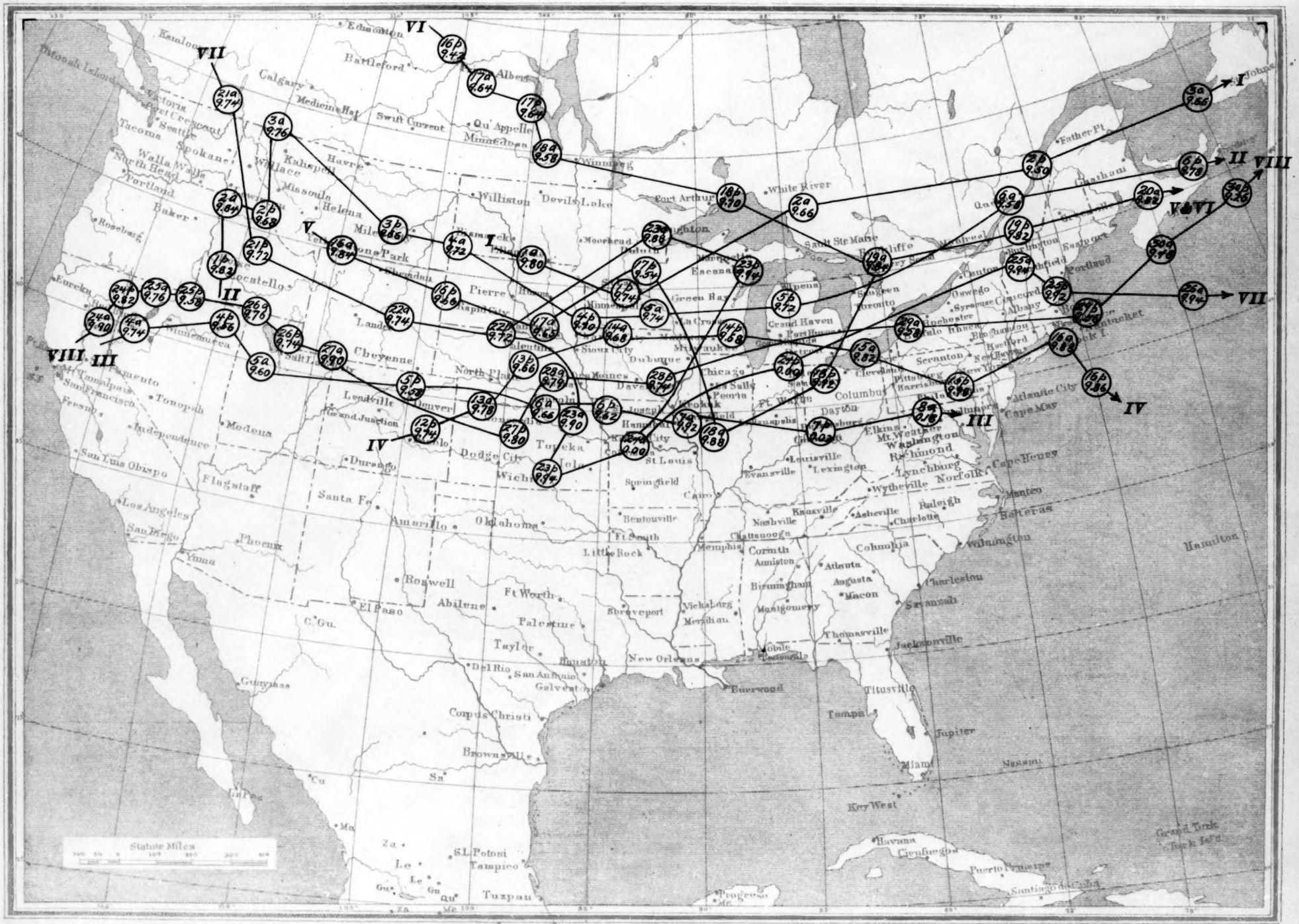


Chart IV. Departure of the Mean Temperature from the Normal, September, 1911.

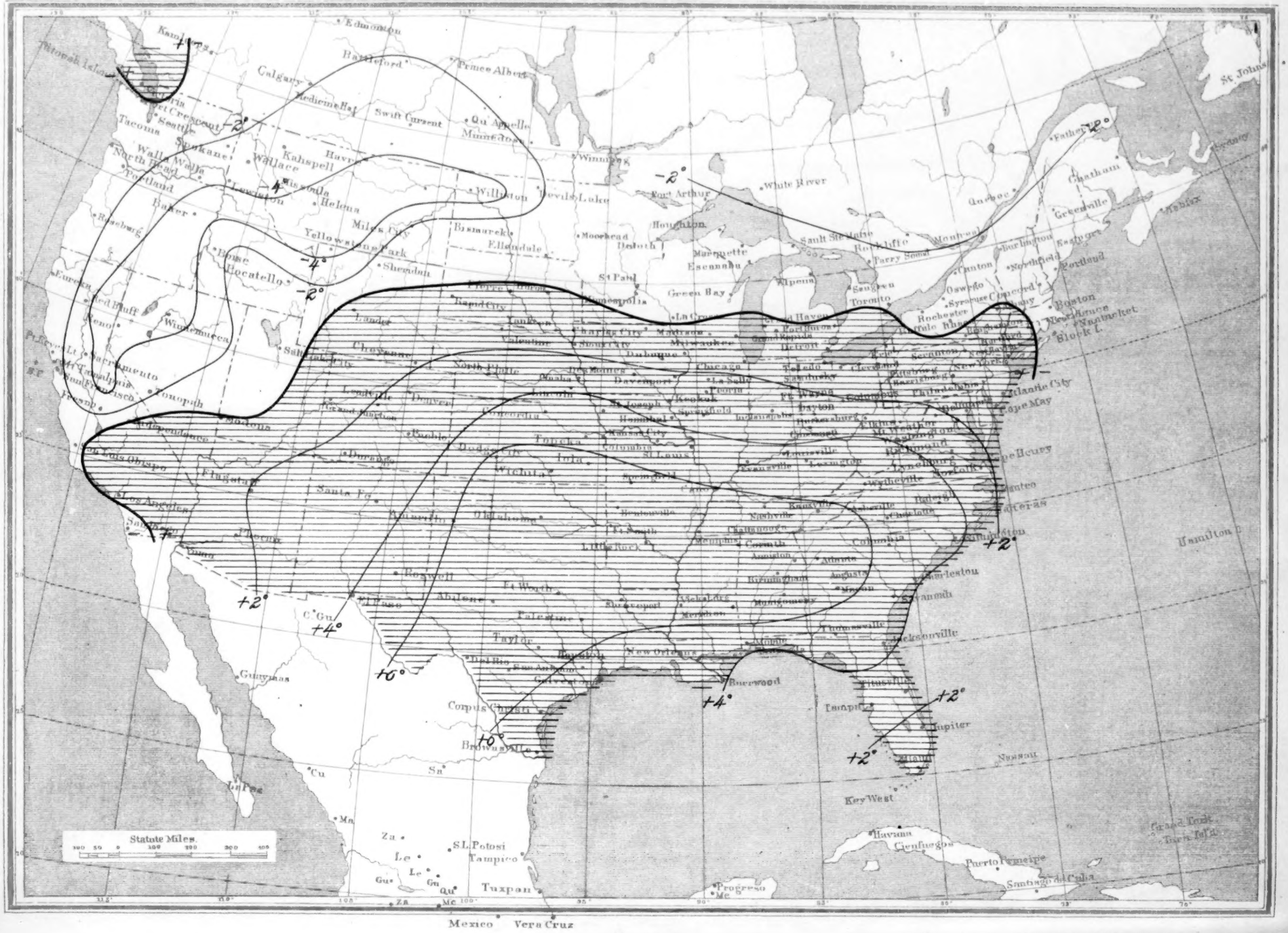


Chart V. Total Precipitation, September, 1911.

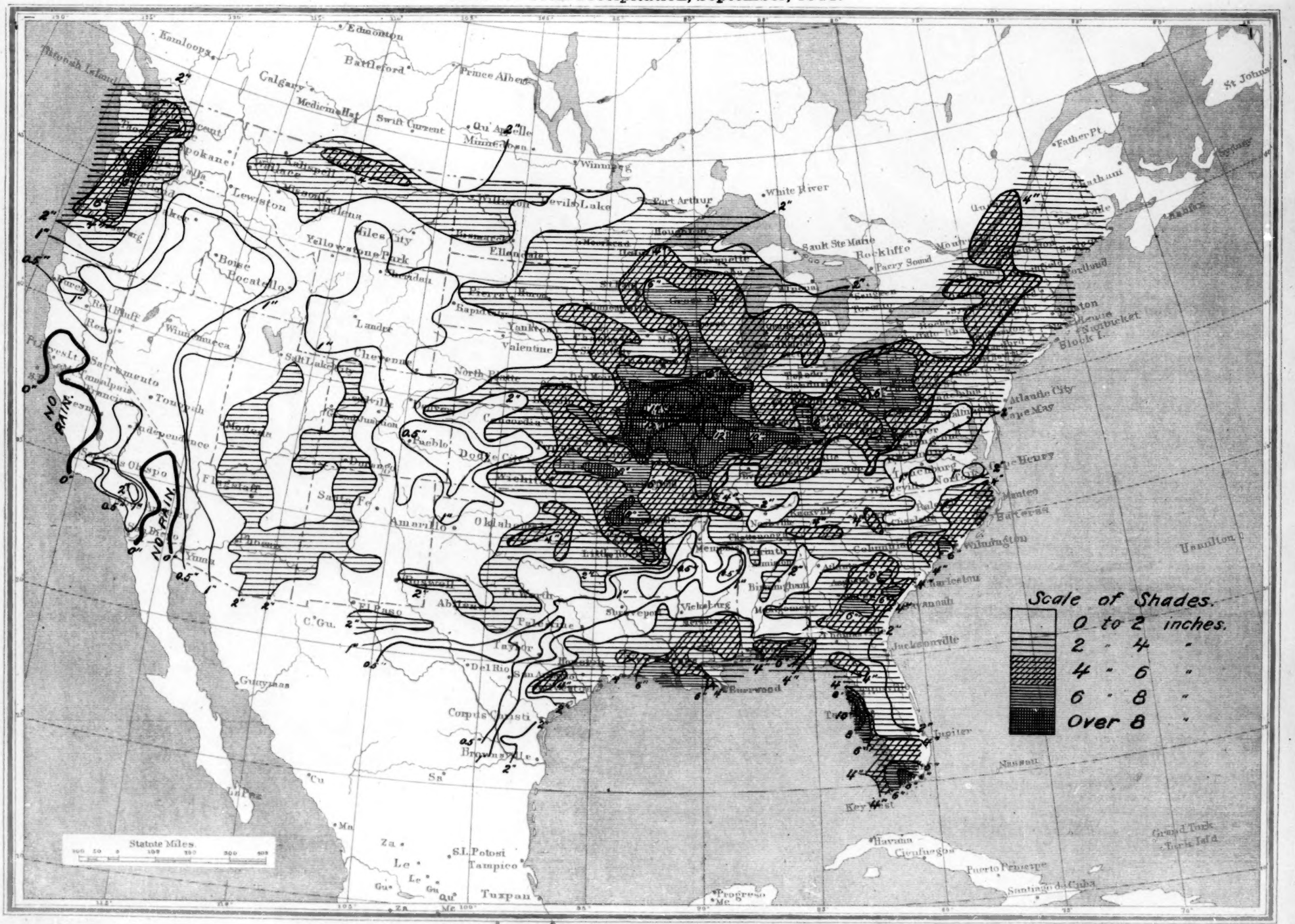


Chart VI. Percentage of Clear Sky between Sunrise and Sunset, September, 1911.

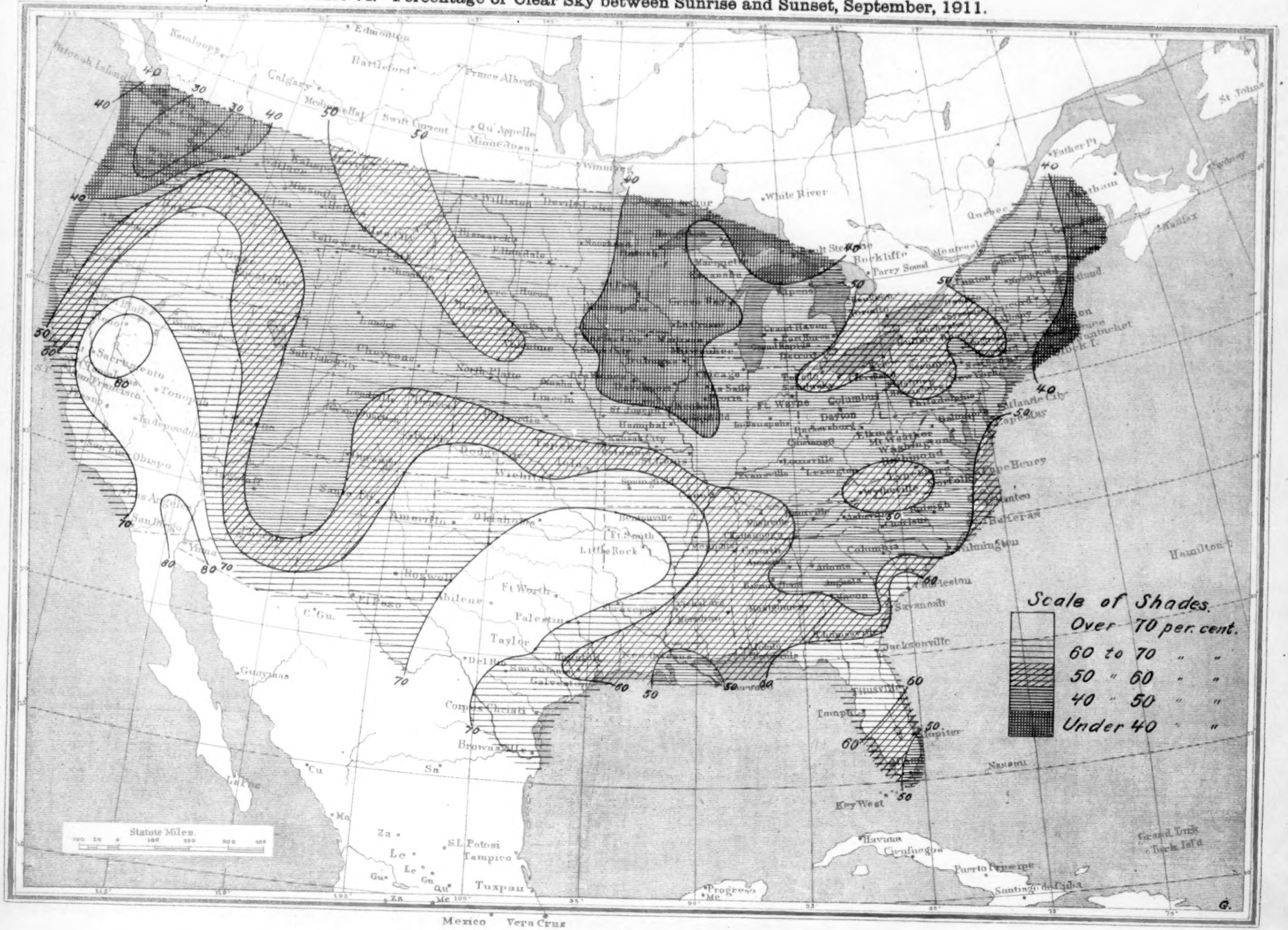
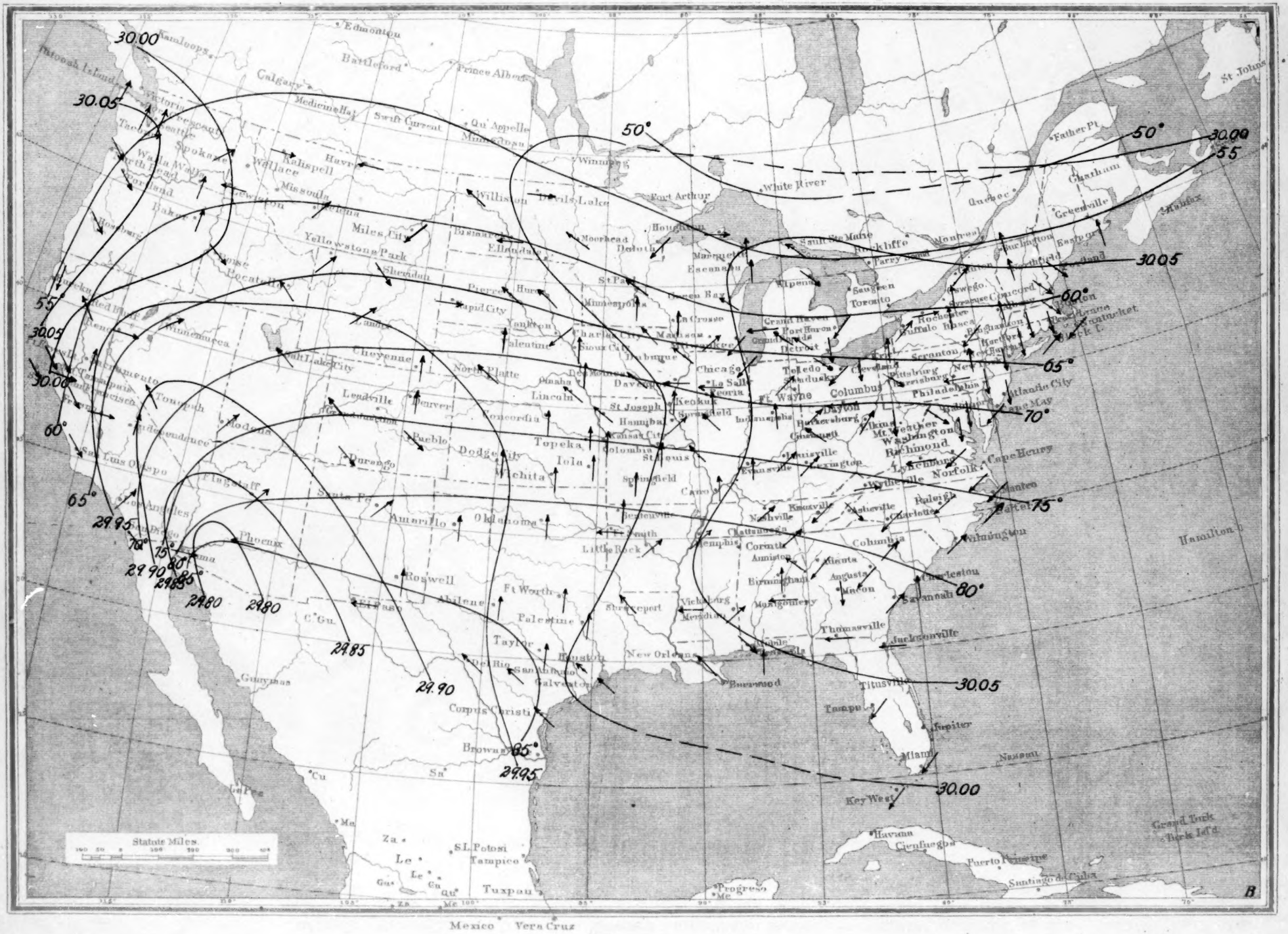



Chart VII. Isobars and Isotherms at Sea Level; Prevailing Winds, September, 1911.